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EDITORIAL

As We See It

The resignation of one of the members of the Federal Communications Commission who had been placed in a compromised position by recent Congressional investigations has doubtless brought an end to one phase of a bitter, not altogether non-partisan, inquiry into the ethics, not to say the misconduct, of the members of the so-called independent agencies of the Federal Government. Whether these inquiries will now really continue vigorously until the facts are fully developed, or whether one scape goat will be sufficient to put an end to the crusade, time only will tell. There can be little doubt that each of the major parties would like to uncover facts which would discredit the other, but of course, there is really no telling in advance whose ox is going to be gored.

The whole matter is a very serious one, and no one with the good of his country at heart is likely to take the matter lightly or to wish to have official misconduct condoned or ignored. If half of what one hears is true there is plenty of room for reform. It would be a good thing if a vigorous program of investigation and corrective action were to be effected and without delay. It may well be that members of Congress, too, would in some instances have red faces if all the facts were fully revealed. So, quite possibly, would a number of labor leaders and some business executives. "Pressure groups" are found in all walks of life in this country, and there is no unwritten law which places government servants above and beyond being approached—as there have been in

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The Business Outlook—Why Economists Disagree

By ROY L. REIERSON*

Vice-President and Chief Economist
Bankers Trust Company, New York

Bankers Trust's chief economist sees decline possibly ending sometime this year, although not necessarily in the months immediately ahead, and opines "the odds are against a spiralling decline to depression levels." In explaining why, and extent to which, economists disagree, Dr. Reiersen doubts efficacy of forecasts until there is clear-cut evidence that the economy is approaching end of a downtrend. Banker believes: (1) current downturn is likely to be more marked than two previous ones; (2) another investment boom comparable to 1956-57 is not in sight for several years; (3) consumers alone will not spark the upturn; and (4) housing in 1958 may only exceed 1957 by a small margin.

The business news since the turn of the year has resolved at least one of the uncertainties that had previously obscured the economic picture. Until fairly recently, there was some question whether an actual business downturn was in the making or whether the sag was merely a pause along the road. Now, this issue is no longer in doubt; it is generally agreed that the American economy is in a full-fledged recession.

Regarding the extent and duration of the recession, however, and the prospects for a renewed upturn, opinions not only among economists but also among businessmen are as divergent as ever. In fact, rarely have competent observers differed so widely concerning the outlook. Opinions range from confidence in imminent recovery to concern over the possibility of a sustained depression. Perhaps this is not altogether

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*An address by Mr. Reiersen before the New York Chamber of Commerce, New York City, March 6, 1958.



Roy L. Reiersen

Overall Economic Strength Of the Television Industry

By WILLIAM H. COOLEY

President, Television Shares Management Corp.
Vice-President, Television-Electronics Fund, Inc.

Far from having run its course, Mr. Cooley's analysis of what he terms a "slumbering giant" holds that television's entertainment half (manufacturing, broadcasting and servicing) is like a capped oil well whose lid may blow off tomorrow, and that the scope of the other half (industry, commerce and education) knows no limit and has barely begun. The TV fund official finds today's fewer manufacturers are in a stronger economic position than larger number in 1950 peak year; predicts minimum of 6-7 million sets this year; and sees closed circuit doubling of 1957 sales over 1956 should continue in 1958, amounting to \$10 million.

For some time, investors and many of those who advise investors on the disposition of their assets have closed their books on the television phase of the broad and otherwise dynamic electronics industry. They have adopted an attitude, superficially justified perhaps, that television has about run its course.

I won't argue with the fact that, in the past two years at least, there has been little to warm the heart, raise the hopes, or fill the pocket-book of the investor in the operations of the television industry. And I am frank to admit that immediate, near-term factors certainly have militated against any dominant position in the stocks of the so-called television companies. The surface picture, also, is not today any brighter than it was a year ago, nor are the short-term prospects much more attractive investment-wise. Yet, a flat, one-dimension portrait, such as that which current statistics delineate, is a poor



William H. Cooley

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The Security I Like Best

A continuous forum in which, each week, a different group of experts in the investment and advisory field from all sections of the country participate and give their reasons for favoring a particular security.

(The articles contained in this forum are not intended to be, nor are they to be regarded, as an offer to sell the securities discussed.)

CHARLES E. JANK

President, Frank Knowlton & Co.,
Oakland, Calif.

Yuba Consolidated Industries, Inc.

In these days of dark clouds on the industrial horizon, the security I like best must first of all have behind it a depression-proof or at least depression-resistant company. But going wholly on the defensive is not enough. If the company with a defensive shield in one hand has an arsenal of offensive weapons in the other, then I can foresee a good future for my investment, come what may on the economic front.

Yuba Consolidated Industries, Inc., the security I like best, is the most clear-cut example I know of a company which is on the offensive at the same time it is on the defensive.

The company's predecessor, Yuba Consolidated Gold Fields, has been for half a century one of the most successful and consistently profitable placer gold mining operations in the United States. Founded in 1905, it has since recovered over \$152 million in gold. In doing so, incidentally, it has moved four times as much yardage of earth as was removed in building the Panama Canal. The predecessor paid its first dividend in 1906 and there has been no interruption in the continuity of dividends in 52 years. Gold earnings alone are now at a rate sufficient to pay Yuba Consolidated Industries' 36c annual dividend rate and indications are that this will be the case for at least another decade. Even allowing for an increase in the cost of recovering gold mining in the next 10 years should produce sufficient net to cover present dividend rate.

However, the company's defensive strength does not rest wholly with its mining division. The manufacturing properties, which are now grossing at a \$25 million a year rate, derive their income largely from industries which have little or nothing to fear from a change in the economic weather. Of last year's manufacturing income, 47% came from sales to the public utility industry and 30% from petrochemicals. Of the remaining 23%, road building accounted for an appreciable portion, and as the highway program is geared up there seems little doubt that the percentage accounted for by earth moving and related machinery will increase.

With all this strength on the defensive side, what room is there left for the Company's weapons of aggression? One answer is to look at the growth record of the last two years. Sales of the manufacturing divisions in 1956 totaled approximately \$5 million. Through acquisitions and through step-ups of production of the existing properties, they are now running at five times that rate. Nor apparently is a resting place near at hand. The company's backlog of unfilled orders approximates \$21 million, or close to a year's output at the current rate.

Within recent weeks, Yuba has branched out in the missile field with the acquisition of two companies whose activities—design in the case of one company and production in the case of the other—

aptly complement each other. Combined with the research, development and other facilities possessed by Yuba prior to these acquisitions, the new properties should enable the Company to encompass almost all aspects of missile work.

Even if the recession should last through the rest of 1958, it is hard to see how Yuba's earnings, this year can do anything but advance. They rose from 33c a share in 1956 to 68c in 1957, and management has announced its determination to exceed \$1 in 1958.

Hence, the security I like best yields better than 6% at its current price of about 5½, offers investors a promise of satisfactory if not increasing earnings during any bad times that may lie ahead, and, in all probability, continuation of rapid growth if conditions begin to improve. The stock is traded in Over-Counter Market.



Charles E. Jank

PETER VAN OSDOL

Campbell, McCarty & Co., Detroit
Members: Detroit Stock Exchange

FNMA Common Stock

The unique opportunity for private investors to own stock in a government controlled institution was created in 1954 when Congress acted to create this entity for the purpose of improving the demand for and marketability of FHA insured and VA guaranteed mortgages. The function of FNMA is similar to the function of any mortgage company; the purchase and sale of mortgage obligations with capital funds and borrowed funds. Capital funds consist of proceeds from the sale of common stock to the public (as described below), the sale of participating preferred stock (to the Secretary of the Treasury only), and earned surplus. Capital and surplus was carried at \$181,960,748 in the Dec. 31st report, including \$33,022,914 in common stock, or just over 330,000 shares. Borrowed funds consisted of debentures held by the public and notes payable to the U. S. Treasury totaling \$1,396,152,206. Assets consisted almost entirely of VA and FHA mortgages at \$1,561,346,776. Face value of mortgages is approximately 5% higher than this.

Graphically stated, the Secondary Market Operations were instituted to support the FHA and VA mortgage market much as farm price supports were instituted to support food prices. Unlike produce, however, mortgages don't rot; on the contrary, they produce a well secured income ranging from 4½ to 5¼%. Since the fees collected by FNMA offset, to a large extent, the fees and expenses paid by it, FNMA makes money in two major ways; by keeping the excess of interest received (on mortgages held) over interest paid (on debentures issued); and by realization of purchase discounts on mortgages held, which discounts in some cases amount to as much as 10%.

On a simpler level, suppose I were to buy an insured \$10,000, 4¾% mortgage for \$9,500. I would have a current yield of 5%. But suppose that I were able to borrow \$8,500 at 3½%, using the mortgage as security. This would leave me with a net investment



Peter Van Osdol

This Week's Forum Participants and Their Selections

Yuba Consolidated Industries, Inc.—Charles E. Jank, President, Frank Knowlton & Co., Oakland, Calif. (Page 2)

FNMA Common Stock—Peter Van Osdol, of Campbell, McCarty, Inc., Detroit, Mich. (Page 2)

of \$1,000, and with interest costs of \$297.50 deducted from my income of \$475, leaving \$177.50, I would have a net current yield of 17¾%. This does not include my \$500 discount on the mortgage, which eventually would be added to my profit.

So far, so good. But now suppose you were able to purchase my \$1,000 net investment for \$600. This, in effect, is what one does when one purchases FNMA stock. Even if one deducts the Federal income tax equivalent paid by FNMA, the profit potential is of a size and safety difficult to match.

There is a good explanation for this opportunity. When a bank, mortgage company, or similar institution sells a mortgage to FNMA, it must buy FNMA stock, at \$100 per share, equivalent to 2% of the face value of the mortgage. Since cash is the stock in trade of such institutions, this stock is normally sold. Because there has never been, and by present law cannot be, a public offering of this stock, and because of the relatively small amount outstanding and the newness of the Secondary Market Operations, investors are, on the whole, not adequately aware of the situation. This combination of constantly increasing supply and limited demand has materially contributed to what appears to be a conservative market valuation of the stock.

The recent downturn in interest rates, sparked by the reduction of the rediscount rate by the Federal Reserve Board, should benefit FNMA in the following ways:

(1) Interest rates on the debentures held by the public, by far the greatest expense of FNMA, should decline by an average of at least 1% during 1958, based on the current market prices for the debentures. With issues totaling \$1,465,000,000 currently outstanding this would represent a substantial savings to the approximately 1,250,000 shares of common and preferred stock now outstanding. These savings will be reflected in future years due to the longer term debentures now being issued by FNMA.

(2) With a rapidly growing demand for mortgages, increased sales may be expected from FNMA's large portfolio. Since this was accumulated during a period of extreme weakness in the mortgage market, substantial profits may be forthcoming.

(3) As private demand for mortgages grows, FNMA's purchasing activities should abate, thus reducing the flow of FNMA stock to the market and relieving the selling pressure on the common stock. Retained earnings can then be used to retire the participating preferred, thus increasing the equity of the common stock.

Despite the bullish implications of the above factors, the stock (traded in the Over-the-Counter Market) is still available at less than 11 times the \$5.60 annual earnings rate of the latest quarter, and at little more than half of book value (last reported at \$104.99, a figure which excludes unrealized purchase discounts amounting to about \$45 additional per share). With a yield of over 3% on the \$17 monthly dividend I feel that this security presents an unusual combination of safety, income and appreciation potential.

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Glimpses Ahead for Electronics

By DR. ELMER W. ENGSTROM*
Senior Executive Vice-President
Radio Corporation of America

RCA top researcher briefly examines nature of such key developments in electronics as revolutionary materials, switch to teams of varied scientific and technical skills, and ever-quicken pace of—and new environmental pressures on—research accompanied, paradoxically, by serious problem of depletion of basic knowledge. In moving from electronic data-processing systems of today to the automatic electronic factories and offices of tomorrow, and in meeting our competitive defense needs, Dr. Engstrom warns uncommitted basic research must be supported financially, and calls on industry to do its share and on Congress for proper funding of our National Science Foundation.

The present status of electronic development and the potential impact of this development on the future is a worthy subject, but a difficult one.

The term "present status" has become purely relative, so rapid is the pace of electronic development today.

In a national economy that has broken all records for growth in these postwar years, the electronics industry as a whole has been unique in the degree of its expansion. In 1946, total sales of electronic products and services were slightly over \$1½ billion. Last year, only a decade later, the total had risen to approximately \$11 billion, carrying electronics upward to fifth place among all American industries in business volume. This is nearly an eight-fold increase during a period in which our gross national product doubled.

The basis of this phenomenal growth has been the extension of electronic techniques into an ever-broadening range of applications in commerce and industry, in defense, and in the home. Our ability to extend electronic techniques has, in turn, been the direct result of industrial research and engineering where growth and acceleration have no parallel in our history.

We may contemplate the astonishing growth record of the electronics industry during the past ten years with a certain amount of satisfaction. At the same time, we must temper our satisfaction with a recognition that this growth has brought with it new and fundamental problems relating to our responsibilities for the future. These problems arise from major changes that are under way in the foundation elements basic to electronics and, likewise, in the environments basic to research and engineering.

The keys to our future will be found in new materials, in the growing concept of systems engineering, and in the ever-quicken pace of research. My purpose is to examine briefly the nature

of these key developments, and then consider the requirements which they impose upon us.

Materials for Tomorrow

Within the past quarter century, we have advanced into a new age characterized by the availability of a growing variety of new materials that are superseding the older familiar types in virtually all the products and processes of industry. The sequence from Stone Age to Bronze Age to Iron Age has brought us now to the age of raw materials fabricated to our order.

These new materials are the result of recent and rapid advances in physics, chemistry, and metallurgy. They have revolutionized our technology. They have opened the way to new devices, systems and techniques that were previously impossible of achievement, either technically or economically.

The new materials can be divided into several principal categories. The first comprises a large and growing family of solid substances within which we can control the action of electrons to achieve a variety of novel effects. These are conveniently called electronically-active solids. Another broad grouping comprises many lesser-known elements and new compounds capable of withstanding extremely high temperatures or of exhibiting useful characteristics at high temperature levels.

A third category includes the large number of radioactive isotopes and materials whose properties can be altered basically by nuclear radiation. In a fourth category are scores of previously unexploited or new materials of superior strength under extreme conditions of stress or strain. Still other categories comprise the many complex, man-produced substances such as antibiotics, plastics, and synthetic fibers.

A number of these new materials employ rare elements and complex methods of fabrication, resulting in prices that may range in some cases up to \$1 per gram. Despite this large figure, these materials are worth many times their cost.

Electronically-Active Materials

The electronically-active materials are just now coming into general use and will soon dominate the electronics scene. Until very recently, all of our apparatus and

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Dr. E. W. Engstrom

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Observations . . .

By A. WILFRED MAY

TOWARD FOREIGN AID REALISM

In our contribution of last week we advanced our conviction that public discussion of Foreign Aid policy be confined to the realities

—for pragmatic as well as ethical ends. This credo is importantly highlighted in the launching of and interest in Senator A. S. Mike Monroney's proposal for a new international lending agency, to be called the International



A. Wilfred May

Development Association (also dubbed "The Monroney Bank"). The Senator initiated his project legislatively through a resolution introduced in the Senate on the eve of the giant Washington bipartisan assemblage on behalf of Foreign Aid.

On the premise that we must "avoid the folly of rigid fixation on policies no longer effective," the proposal specifies the making of development loans at rates of interest lower than those now available; with repayment terms much longer than those afforded by either the World Bank or our Export-Import Bank, and with the privilege of remitting in soft local currencies.

The evil in conceiving of the thus projected agency as a banking operation, or overlooking its true role of another give-away device, far transcends the areas of mere definition, semantics, or even of ordered Federal fiscal score-keeping. Its proposed "soft-lending" accommodations, together with the politically motivated determination of its fiscal activities, would inevitably lead to the undermining of the \$3½ billion World Bank by nullifying the latter's valiant efforts to promote sound fiscal practice on the part of the countries in which it is operating.

Such interference has already been demonstrated via the competing activities of the Export-Import Bank. In Brazil, for example, Ex-Imp's loose loans, which have been officially ascribed to political considerations, have enabled the country to forego putting its economic house in order. Mr. Black's institution has not deemed Brazil as worthy of any new money loans since early 1954. (This week's transaction with the local Olin Mathieson subsidiary being a capital investment in a private enterprise by the International Finance Corporation, and having nothing to do with the Bank.)

Moreover, there is the strong likelihood that the new "bank"

will at some point expand its functions to embrace existing Aid activities like the United Nations' Social Projects Fund, or become a wedge for our getting into a give-away device like the proposed SUNFED by the back door.

The only way such undermining by the Monroney institution could be prevented would be by keeping it under the control of the World Bank. But, as is already being indicated by public comment, the accompanying assurance of soundness would of itself be crucial in preventing such control.

Isn't it high time to cease confusing the public by camouflaging Aid devices?

* * *

How to Get Off the Give-Away Hook

The best way to get the world "off the hook" of the self-defeating give-away processes is by building up sound international capital movements. The desired higher incomes and domestic savings are thus generated. But fresh capital movements are obstructed by political insecurity, the threat of expropriation or nationalization with inadequate or no compensation, exchange restrictions, and fiscal and other forms of discrimination.

In these circumstances a new proposal aiming at giving mutual guarantees to foreign investment, by Hermann J. Abs under the aegis of the International Institute of Banking Studies of Rotterdam is interesting and important. He transfers to the economic plane ethical principles, reminding us that economic development is closely linked with the honoring of agreements; and proposes that this necessity for the innate respect of contracts should be validated by a solemn declaration. Good personal behavior must form the basis for economic activity if the latter is to be geared to considerations of productivity rather than politics.

The Report points out that the governments of the young countries are making the error of trying to do in a few years what the West needed centuries of gradual progress to achieve. They fail to see what a very large amount of labor as well as of financial and technical effort the West needed for this purpose, and they do not realize that their economies are far from being efficient enough to enable them to attain the same goal. Gazing in wonderment at the Soviet Union's progress, they shut their eyes to the great sacrifices which the Russian people have undergone as the price of their country's advance.

Incentives to Expropriation

On that crucial process of expropriation of foreigners' assets,

Mr. Abs states that the reasons often rest with economic difficulties arising from either misguided economic policy or because they have embarked on too many projects within too short a time. Rather than carry out effective reforms, the countries take the line of least resistance; and they start by taking over or squeezing out the enterprises controlled by foreigners, this in the hope of remedying the financial or economic difficulties into which they have run.

Proposed Remedy

To remedy all this, Mr. Abs under the sponsorship of the Rotterdam Institute offers a working plan, a "Convention for the Mutual Protection of Private Property Rights in Foreign Countries," in which the contracting parties would undertake to accord full protection to the property rights and interests of the nationals of each of the other contracting parties according to provisions contained in the Convention.

Sanctions rather than mere endorsement of lofty aims, of course, form the crux of this type of agreement; and here are some of those proposed:

(1) Refusal to grant public or private loans to the State against whom a decision has been given. The same applies to the issue of such loans in their capital markets.

(2) Refusal of future governmental guarantees to cover political risks to exporters and investors of the contracting parties in connection with foreign investments and exports of capital goods.

(3) Recommendations by the governments of the contracting parties to their private or public banks not to grant credit or loans to enterprise desiring to effect fresh investments in the territory of the State against whom a decision has been given.

(4) Recommendations by the Governments of the contracting parties to their private or public banks in future credit and loan agreements with the offending State, to embody a clause to the effect that the credits or loans shall fall prematurely due in the event of infractions of the convention; and

(5) Revocation of any most-favored nation clauses which may have been embodied in agreements with the offending state.

Irrespective of whether these proposals are workable, in whole or in part, they certainly represent an approach in the fundamentally right direction!

Howard Calkins Pres. Of Albert Frank Agency

At a directors' meeting following the annual meeting of stock-



Howard W. Calkins

holders of Albert Frank-Guenther Law, Inc., Howard W. Calkins, Chairman of the Board, was elected President to succeed the late Frank J. Reynolds. Mr. Calkins will also continue as Chairman of the Board.

Ashton Adds

(Special to THE FINANCIAL CHRONICLE)

DETROIT, Mich. — Charles H. Buck has been added to the staff of Ashton & Company, 15515 West McNichols Road.

The State of Trade and Industry

Steel Production
Electric Output
Carloadings
Retail Trade
Commodity Price Index
Food Price Index
Auto Production
Business Failures

A further effort was made on Thursday of last week by the Federal Reserve Board to assist business and industry in stemming the tide of our waning economy by its action in cutting the discount rate one-half point for New York, Chicago and Philadelphia Federal Reserve Banks. The new discount rate now stands at 2½%.

The above banks were leaders among Federal Reserve Banks in cutting the discount rate by one-quarter point late last January. Since the middle of last November, when all Reserve banks cut the rate a half point, the discount rate at the New York, Chicago and Philadelphia banks has now been trimmed 1¼ point.

This latest action widens still further the gap in the discount rate between the three big Federal Reserve Banks and the San Francisco Federal Reserve Bank, which is the only one of the 12 Reserve Banks still at the formerly prevailing 3% rate. The eight other Federal Reserve Banks are at 2¾%.

A Federal Reserve spokesman pointed out that the latest reduction was taken in order to keep the discount rate in line with other sharply descending short-term market interest rates, such as those on 91-day Treasury bills, commercial paper and bankers' acceptances.

He also noted that the cut also comes in the midst of further signs of a decline in business. The spokesman added the move was taken to make credit conditions "still more favorable for recovery."

Turning to the country's employment situation, it is noted that claims for unemployment benefits rose by 137,800 during the third week of February to a total of 3,268,000, highest in 20 years, the United States Department of Labor reported.

Since many employees are not covered by Federal-state jobless payments, officials noted that on the basis of latest reports there was no doubt the total unemployment figure for February would exceed 5,000,000.

The insured unemployment figure has been climbing sharply since last fall and now represents 7.9% of workers covered by the jobless payments. It was the highest numerical total since the program began in 1938.

It was nearly double the 1,700,400 workers who applied for benefits during the corresponding week a year ago. The 1957 figure represented 4.3% of those insured.

The increase was attributed to further cutbacks in metals, machinery, electrical equipment and auto industries and to the effects of bad weather.

The Department's bureau of employment security added that the number of initial claims filed by newly laid off workers dropped by 23,300 to 435,900 in the period ended March 1. About 227,000 initial claims were filed for the same week in 1957.

Steel men are cheered this week by an influx of orders from small customers, but depressed by the lethargy of most big users, "The Iron Age," national metalworking weekly, reported on Wednesday last.

The order pickup from the "little fellows," it added, is not enough to save March from a steel production standpoint, but if the trend continues, the accumulation of orders could be enough to spark a significant production increase in April.

It further stated that without some help from automotive, the railroads and appliances most steel men are resigned to an unsettled market situation until mid-year. In fact, the consensus to-day is that a real groundswell is hardly likely to develop until third quarter.

Voicing an optimistic note, this trade weekly continued by saying, the steel production rate to-day is closely keyed to actual business volume. Backlogs for most mills are a thing of the past and user inventories are low, so an improvement in the business of steel customers could be reflected quickly in the steel ingot rate.

In Detroit, the steel market picture changes from day to day, and the mills are not quite sure where they stand. Orders are canceled one day and reinstated the next. Other tonnages may be set back, increased or decreased.

One steel executive describes the Detroit situation as akin to running a foot race while jumping up and down. It is a lot of work, but you do not seem to get anywhere.

"The Iron Age" says that the steel job classification system established more than 10 years ago is successfully meeting the challenge of automation. Talks with industry and labor leaders indicate that the trend to automation in steel has not significantly upgraded or downgraded the average worker.

"In 1951," this metalworking weekly reported, "the average steel worker's job rating was 8.02 and in 1955 it was 8.13. The gain was less than 2% and most of it came at the bottom of the scale."

"Another significant point: The transition involved in a 14% productivity gain was smooth. Between 1951 and 1955, only a handful of job classification grievances required outside arbitration."

In the automotive industry February new car sales established a 53-month low of 321,400 units, "Ward's Automotive Reports" disclosed on Friday last, giving the auto industry a 250,000-unit sales deficit in January-February compared with like 1957.

This trade paper said that despite an upturn in retail buying late in the month, February sales could not stave off a further increase in dealer inventories, now crowding the all-time high of 890,000 units.

It added that further curtailment of factory production is in prospect for March and April, pointing out that despite a cut in

Continued on page 43

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Over-All, Long-Range Direction Of American Business

By LANSING P. SHIELD*

President, The Grand Union Company

Affinity for domestic and international status quo is decried by Mr. Shield who finds that our lack of receptiveness to change has, for the most part, cost us our "moral leadership of the world and our system is under fire both at home and abroad." The super-market food chain head believes business and labor are bequeathing some major, unsolved weaknesses in our business system; urges we resolve economic group interests into a common objective to promote society's best interest; and calls on business to exercise its primary responsibility for moral leadership to recreate our former favorable world image and a strong America for our children.

Whether we sell bonds and stocks or butter and steaks, we all have a common interest in the direction business is taking in this country. I am not referring to the current recession. Possibly too much already has been said about that. Rather, I should like to discuss for a few moments about the overall, long-range direction of American business.



Lansing P. Shield

There is a wide difference in the philosophies of business enterprise just as in people. After all, business is people.

We have the group that holds to the status quo, or is reasonably satisfied with the existing state of things; and then there is the group that is receptive to change.

In the first group are the militant conservatives and the people who just don't care. You might say they are riding backwards on the wheels of progress so that the only view they get is to the rear. They remind me of the big game hunter's assistant. His boss had a beautiful trophy room of heads of wild animals he had shot. Across the corridor was the assistant's smaller trophy room where he had mounted all the rear ends.

Included in the group of conservatives are those successful businessmen who have built their businesses on new ideas but are now allergic to them. From here in they want to sit tight and play it safe. A new idea that might alter their business philosophy is

about as welcome as the proverbial mother-in-law.

Adherents of the first group's philosophy say "why change?" Our system has yielded most of us a good living. We can continue with our present business pattern in this country and at the same time afford the armaments that will protect us from our enemies.

Some of us might settle for that philosophy if we had any assurance that down that road lay safety.

In the second group are the builders and those who welcome change. A typical leader in this group might be described as a man with his feet on the ground and his head just far enough below the clouds to have good visibility. The leaders of this group look squarely at the serious weaknesses in our national structure—weaknesses that have risen primarily out of the rapid and accelerating world-wide changes in economic and social systems. They recognize, too, that our world position has been undermined. They look upon our armaments as merely a dam that is holding back the red tide—a dam in which we are frantically trying to plug the leaks with Jupiters and Vandergaards.

But despite our armaments, this red tide continues to flow over uncommitted countries. We shall not turn it back with better missiles.

For the most part, the deterioration of this country's position may not materially affect most of us during our lifetimes because many of us might not be considered in the younger group. Of course, that's a point of view. Oliver Wendell Holmes, at 80, passed a pretty girl on a Washington street and remarked, "Oh, to be 60 and young again." Some one has said, "Growing old is not so bad when you consider the alternative." After all, to paraphrase General MacArthur's statement, "Old se-

curity dealers never die, they just trade away."

Losing Our Stature

Short of a sudden national disaster, the way of life to which we have been accustomed is reasonably assured for us for the rest of our years. On the other hand, each of us wants to leave as a legacy to his children, a strong America.

The legacy we shall bestow on succeeding generations is the greatest and most equitable business and social system man has yet devised—a system that has been modified and improved during the last 25 years to provide security for the individual, better opportunities for all races and an unbelievably high standard of living. So far so good. But here are some contingent liabilities in this legacy which may cause future generations to take a dim view of their ancestors.

We have lost for the most part the moral leadership of the world and our system is under fire both at home and abroad.

In 1941, Wendell Wilkie, a business man who looked beyond his business, made a trip around the world. When he returned, he pointed out that, over the years, America had built up a great reservoir of good will—a national image in the eyes of other nations that pictured America as the champion of individual freedom and of personal opportunity regardless of station or birth—a people with tremendous energy with an unselfish desire to help nations less privileged. That was 17 years ago. If Wendell Wilkie were alive and making that same trip today, he would find that reservoir nearly empty—he would be a disillusioned man.

It is hard for us to realize that millions of people throughout the world consider us allied with the advocates and defenders of the status quo, just at the time when their countries are undergoing great social and economic changes and they are looking for leadership and help. In the meantime, Russia and China exhibit a Communist showcase to the Orient and Africa in which recent successes are prominently displayed and tempting wares are offered.

Our Achilles heel is the national image we present to our friends and enemies—and our friends are getting fewer and our enemies more numerous and more powerful.

This image is marred by our shortcomings here at home and casts a shadow of doubt on the value of our bequests to future generations.

A few days ago, I received this letter from a life-long friend, who is senior editor of one of the country's leading magazines. I quote in part, "I'm retiring and going to Europe to live. I'm sick of the way this country is going down the drain and the mismanagement of its affairs."

I can't go along with my intellectual friend's excessive pessimism, but there is so much more than an element of truth in what he says that I suspect the quotation strikes a responsive chord in many of us.

I need not recount a long list of our American failings. They are much publicized. There are some, however, that should be of special interest and concern.

Bequeathing Our Failures

This generation is bequeathing some major, unsolved weaknesses in our business system. There is the failure of great economic groups to exercise self-restraint and accept fully their social responsibility.

For example, we have not yet learned how we can subordinate the selfish interests of individuals and groups to the common welfare. As a result, pressure groups are able to obtain privileges and

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Problems Endangering Canadian-American Relations

By DONALD GORDON, C. M. G.*

President and Chairman, Canadian National Railway

Canadian-American businessmen are advised by Canadian rail head to apprise themselves of current points of friction and to undertake prudent actions themselves rather than await Governmental action which is said often comes too late to arrange amicable settlement and prevent breakdown in relations. Current problems jeopardizing friendship and goodwill cited by Mr. Gordon include: (1) our tariffs against Canadian exports which, paradoxically, originate in the first place from U. S. investments; (2) inability of Canadians to participate in ownership and fill top management positions of U. S. branch plants and subsidiaries; (3) barriers erected against Canadian efforts to pay for its adverse trade balance with us; and (4) effect of U. S. agricultural surplus and trade policies on Canadian agricultural sector.

Because relationships between our two countries have been generally good, and because there has been much truth in these

comfortable assumptions, I am most reluctant to say anything that would injure or destroy these ideas. Nevertheless, the simple fact is, to me at least—and here I should emphasize that I speak only as a private citizen—that relationships between our two countries have deteriorated in recent years. Points of friction have arisen which must either be eliminated, or so treated that they will not cause further trouble.

We all understand how important it is to deal with points of friction in the moving parts of mechanical devices. Unless adequate and effective lubrication is provided at points of friction, valuable machinery will inevitably break down or suffer serious damage.

In human relations, points of friction demand the same treatment, in the sense that they quite often disappear if action, accompanied by the lubrication of goodwill and understanding, follows a critical examination of the problem. I would suggest that there has been no lack in the use of goodwill in attempting to solve our mutual problems, but it has often seemed to me that we have not made a practice of critically examining our problems, and then speaking about them in realistic terms. You may recall that Emer-

*An address by Mr. Gordon before the Pittsburgh Traffic Club, Pittsburgh, Pa.

son—that eminent American exponent of the worth of the individual—had something to say in this connection and I quote:

"Men in all ways are better than they seem. They like flattery for the moment but they know the truth for their own. It is a foolish cowardice which keeps us from trusting them and speaking to them rude truth."

This, then, is the text of my paper, for between us let it be said that "rude truth" about our common problems may be spoken. Such speech bounded always by goodwill and understanding and followed by appropriate action should help us to resolve our differences.

Completely Independent Canada

What are these problems which are endangering Canadian-American relations? There are no longer any territorial disputes between our respective countries that cannot be settled through procedures and compromises mutually agreed upon. There do not seem to be many problems of a purely political nature. It is true that some Americans may be a bit disdainful of their northern neighbor because of a misconceived notion that in some way we are colonialists. Most intelligent Americans understand that Canada is completely independent as a nation, but on occasion Canadians are startled to read in the American press, or to hear some public representative of the United States state directly, or by implication, that some form of tribute is payable by Canada to the British Government. This, of course, is nonsense. Canada is a proud member of the British Commonwealth of Nations, and a mutual Sovereign provides the only formal link with the people of the United Kingdom. There is

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Entertainment Electronics

By DR. IRA U. COBLEIGH
Enterprise Economist

A broad screen view of conditions in the TV and radio world with some nonstatic sets of statistics.

Whither TV? We have viewed with delight Peter Pan, Aladdin, Cinderella and Disneyland; we have seen squirming Apalachin-type gangsters and dizzy mobster's molls on the Kefauver investigation; and we have seen labor leaders with short memories and long expense accounts deliver their defenses in language more ox than Oxonian. And only a week or so ago, we saw the prize TV commercial—the unveiling by that Unmelancholy Dane, Victor Borge, of a 1958 Pontiac under a three foot blanket of snow. We are a fortunate people, indeed, to have all these cultural and newsworthy bounties delivered to us so costlessly and so effortlessly by TV. The next treat in store for us is, no doubt, a network view of the arrival of Explorer II on the Moon.



Ira U. Cobleigh

But enough of this program chatter. What about the sets? How many of them are there and is making them a profitable business? Well, there are some 40 million television sets in use and over 85% of the homes in America now boast at least one. About 15½ million of these sets have (excluding portables) screens smaller than 21 inches. (These are regarded in the trade as vintage "knot-holes" and logical targets for replacement because they are outdated, outmoded and require more frequent—and costly—repair.)

In 1957 about 6,300,000 TV sets were manufactured (including color models) against 7,350,000 in 1956. Radios, on the other hand, went ahead with set production totalling 15,350,000 for 1957 against 13,800,000 for 1956. (Auto radios in 1957 accounted for a little over one-third of the total.)

In what looks like a somewhat saturated market for home TV sets, there are, however, some bright spots. First, replacement of old and tired sets mentioned above. Next there's a bright market for second sets in many homes. "Give Junior the old one for his Cellar Club." Then, portables, with 14 inch and 17 inch models to choose from. Many companies had good results with these last year and considerable improvement in this type is expected. Motorola is reported to have developed a light portable

14 inch set that weighs but 30 pounds, is battery driven and uses some 30 specially designed transistors in place of the traditional tubes. This pilot model is not yet reported on the market and is probably quite a bit away from volume production, but it indicates the trend.

Next, new and attractive styling and designing should create a lot of sales. There are stylish slims, tapering consoles, triangular ones to fit in corners, and lowboys that can double as cocktail or coffee tables, and woods to match your furniture. Some of the more expensive models offer luxurious cabinet work, and many are combination Hi-Fi units.

And, of course, there's color television with a market that hasn't really been tapped. The main obstacle has been price, with the cheapest sets still above \$400. More good programs coming out in color, coupled with more aggressive advertising and promotion, and good trade-in allowances, should push up sales this year. For 1957 about 180,000 color sets were sold; this year sales of around 240,000 have been estimated (give or take a little for either optimism or recession!).

Television broadcast revenues are very big business. They totaled over \$1 billion in 1957 (for the first time). Combined radio and TV broadcasting revenues are expected to reach \$5.3 billion by 1965.

About the programs we will see, the trend to movies is powerful and hundreds of pre-1948 feature films have been sold for TV showings. Educational TV is on the up-swing with stations increasing their program hours and broadening the educational fare offered. Over 200 schools and colleges are now instructing via closed-circuit TV; and this electronic educational process is very much on the increase. There are some wonderfully talented teachers in our land. Now, for the first time, many will get a classroom to correspond with their talent.

Of the more traditional program media, Westerns apparently are ageless and inevitable. People do seem to be getting weary of "canned" shows and there is a swing back to the live variety. Quizzes are here to stay and if a show can't give away a little money now and then or produce an intellectual hillbilly who speaks Swahili with a Brooklyn accent, it just doesn't stay around!

And now for the investment angle. What are some of the worthy equities to look at if you're shopping in the radio-TV industry? Certainly you can't get too far afield if you consider

RCA, for 30 years a leader, largest maker of sets with 13,887,000 common shares listed and actively traded on the New York Stock Exchange and now selling at 33½ with a \$1 dividend plus extras. It is promoting 11 of its new color TV sets with an attractive trade-in plan.

The most lofty in price among TV shares has been Zenith. This extremely well managed company has turned in consistently fine earnings, netting for 1957 about \$15.50 on the 492,464 common shares outstanding (sole capitalization). In 1957 cash dividends included \$3 regular, \$2 extra and \$2 special. This latter item derives from an out of court settlement in a suit Zenith won from RCA. (The award was \$10 million payable \$1 million a year for 10 years.) Zenith pioneered in armchair TV with its "Space Command Remote TV Control."

The stock, now at \$140, is scheduled to be split 2-for-1 with an indicated dividend on the new common of \$2 (plus a probable extra). Cash position is opulent with net working capital (on present shares) equal to about \$80 a share. January 1958 operations were at an all-time high.

Magnavox is another company which has been doing well. Shares sell at 36¾ with a \$1.50 cash dividend plus an extra 5% in stock paid in 1957. 1957/8 range was between 28½ and 44. Magnavox offers a top quality line of radios, TV and Hi-Fi sets and has a splendid merchandising organization. Its Hi-Fi lines in particular are moving ahead rapidly; it turns out communication and navigation systems for the U. S. Government; and it has brought forward two new electronic business machines, Minicard and Magnacard, which offer interesting growth elements for the future.

Motorola has been famous for its motor radios but it is also a major factor in military communications and a leading maker of TV sets. Motorola has paid dividends regularly since 1942, the present rate being \$1.50 with net earnings averaging above \$4 a share for the past four years.

In broadcasting the big one is Columbia Broadcasting System, Inc. 1957 earnings on shares (A & B) were \$2.90, up from \$2.13 in 1956. Regular cash dividend is \$1 and shares sell (N. Y. S. E.) around 25.

DuMont Broadcasting Corporation was a division of Allen B. DuMont Laboratories prior to spin-off in 1955. It operates television stations WABD in New York, WTTG in Washington and KTLA in Los Angeles plus radio station WNEW in New York. The stock sells at around 7 in the Over-the-Counter market, pays no dividend and represents a speculation on the future earning power of its stations and two music publishing subsidiaries.

DuMont Laboratories, Inc. is a manufacturer of TV sets and cathode-ray tubes, plus special broadcasting equipment including cameras, film scanners and mobile apparatus. Sales have fluctuated quite widely, running at about \$40 million for 1957 against \$91.45 million for 1953, the peak year. 26.6% of common is owned by Paramount Pictures. Here is low priced speculation in the manufacturing end of TV. Stock is listed on American Stock Exchange and sells at about 3¾, three-quarters of a point above its 1957 low.

One final statistic. The Office of Research and Intelligence of USIA reports that there are now 143,330,500 radio sets in use in the world outside of U. S. and Canada; and 153 million sets in the U. S. alone. In other words, there are some 300 million radios on this planet that can excite us with accounts of man-made moons in orbit, or exhort us to eat Sing Sing pretzels because they have that locked in goodness!

Electronics Outlook for 1958

By DR. W. R. G. BAKER
Vice-President, General Electric Company
President, Electronics Industries Association,
Washington, D. C.

A quick run-down of "promising and challenging" electronic industry's future is provided by the trade association's head who states we are "about to enter another era in which . . . [our] role will be even more significant." Mr. Baker anticipates higher growth in 1958 than new record of 1957.

The electronics industry, which since the beginning of radio broadcasting has contributed greatly and on an ascending scale to the development of our country and the happiness of our citizens, is about to enter another era in which its role will be even more significant.



Dr. W. R. G. Baker

As we move into the age of satellites—and eventually spaceships—and of guided missiles, electronics will provide the only means of communication and control with these invaders of outer space. Without reliable electronic instruments, these marvels of supersonic speed would be useless.

The electronics industry has come a long way since its inception in the early 20's, but its future is more promising and challenging. Today its products are essential to the military services, the safety of commercial aircraft and maritime vessels, to many industries and commercial enterprises, and to the home. Tomorrow it will expand these services and enter many new markets as well.

Record Growth in 1958

Measured in dollars, as computed by the EIA Marketing Data Department, the electronics industry achieved a new record in 1957. Its sales at the factory level exceeded \$7 billion as compared with \$5.9 billion in 1956. Further growth is expected in 1958.

Before World War II the radio industry and the Radio Manufacturers Association, which represented it, was composed of producers of radios for the home, of transmitting and communication equipment, and of their relatively simple components. Today the electronics industry and the Electronic Industries Association are composed of manufacturers of a wide variety of complex equipment, systems, and parts including companies whose primary interests are in aircraft, office equipment, automobiles, and specialized weapons of war. All have a common interest, however, in the development and perfection of new applications of electronics.

This year the home entertainment portion of the industry's dollar volume—that is, the manufacture of radio and TV sets and phonographs—represented only about 21% of the total. Military procurement, on the other hand, constituted about half. Industrial electronic products, which have been steadily rising, accounted for 18%.

This does not mean that the radio-TV business as a whole has declined substantially, but rather that the other segments of the industry have expanded more rapidly.

TV Set Sales

Television receiver sales of about 6.5 million in 1957 were about 4% below 1956, but the industry expects them to return to about 7 million in 1958. The replacements market alone will absorb from three to four million TV sets a year, and second set homes are on the increase.

The radio market—once pro-

nounced all but killed by TV—has made a remarkable recovery and seems to be here to stay. Technical improvements in sound reproduction have revived a latent public interest in both radio and the phonograph. The industry sold 14.7 million radios in 1957 compared with 13.3 million in 1956.

The phonograph—which also was once thought killed by radio—has made an even more startling recovery because of many technical improvements—known to the public as "hi-fi." In 1957 an all-time record of five million phonographs were sold, and a further gain is expected in 1958.

With 47 million TV sets and 135 million radios in use, the business of selling replacement parts alone has become tremendous. In 1957 it amounted to \$900 million, and it's still growing.

Military Electronics

Military procurement of electronics amounted to about \$3.5 billion in 1957 and seems sure to rise in 1958. While there will be some loss in the decline in military aircraft production, the step-

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The Future of Uranium

By FLOYD B. ODLUM*

President, Atlas Corporation, New York City

A most encouraging view of uranium industry's prospects is presented in Mr. Odum's analysis of future uranium demand and rebuttal of typical investors' fears. The Atlas head sees simultaneous propulsive population and living standard rise added to depletion of our resources, wherein coal and oil will become too valuable to burn as fuel, causing imperative need for low-cost power fuel. The writer notes uranium now ranks as big as old established metal mining industries, though based on military needs and not on potential, peace-time uses just coming into play. Explains why he believes atomic power will be competitive and uranium will not be either in over-supply or displaced by fusion process.

I have a rather strong and optimistic conviction about the future of uranium. I'll start by summarizing the experience of Atlas Corporation in uranium. We purchased our first uranium property about three years ago. Since then we have expanded our holdings and developed the properties until today they represent ore reserves of more than three million tons.



Floyd B. Odum

ent production rate is about 35,000 tons per month. This will increase. During 1957 we mined nearly 300,000 tons of ore for a sale value of over 8 million dollars. Even so, the known ore reserves of our uranium subsidiaries at the end of the year were greater than at the start of the year. New development of the properties during the year brought about this result. If this could be kept up year after year, it would be a sort of financial perpetual motion which, however, we can hardly hope to expect.

Most of the ore of our uranium subsidiaries at present goes to mills in which we have an interest. These particular mills have a milling capacity of about 3,000 tons of ore per day.

The product of these mills is uranium oxide, often referred to as yellow cake, which is sold to the Government under term contracts. These present contracts run into 1962. Therefore, to the extent of the capacity of these mills that is available to us for our particular ore, we have firm contracts for our product at established prices for at least four years to come.

I expect we will mine and sell approaching 400,000 tons of ore during the year 1958. At this rate of mining, it would take about eight years or until about 1966, to mine out our presently known reserves.

The Atomic Energy Commission has put itself on record that from 1962 to 1966 it will be prepared to pay domestic mills 8 dollars per pound for uranium oxide, with some possible limits as to the amount of oxide to be so purchased in any year from any particular mine. This amounts to an extension of the Government purchase program and there is really no reason now to assume that the Government will discontinue its purchases even at the expiration of that extended time.

If we were only concerned today with the stake of Atlas Corporation in uranium, my contribution might end right here. The uranium outlook is not only good, it is quite well protected, which is fairly comforting in a period of recession.

But I am certain that the real question in the minds of many is what will happen to uranium after

the expiration of the present Government purchase program.

I became interested in uranium not as a "get-rich-quick" speculation but for more fundamental and longer range reasons. For some years until 1930, I was one of the top executives of the Electric Bond and Share Company and of its foreign subsidiary, the American and Foreign Power Company. These two companies constituted one of the great public utility systems of that era. I spent most of eight years during the 1920's in Europe and South America studying, buying and reorganizing electric companies for American and Foreign Power Company.

World Needs Cheap Mechanical Energy

As I went from country to country and from company to company, I gained some real insight into what abundant low-cost mechanical energy means to a nation's industrial progress and to the standards of living of that nation's people. Check all the countries on earth and you will find that the measure of economic well-being is the amount of mechanical energy available per capita.

One of the basic facts of the society we enjoy today in the United States is the great expansion of the supply of mechanical energy per capita. At the turn of the century each man, woman and child in America had less than 1/2 horsepower of energy at his disposal. Today we have nearly 100 times that amount of energy available per capita. We lead the world in these respects and in consequence in standard of living. I feel confident we are going to further increase the amount of energy available per capita. But even if we are merely to maintain the present level, the sheer growth of population in this country would require a tremendous expansion in our power and energy requirements.

Population over the centuries has been growing at increasingly rapid rates. The first known doubling of world population took place between 700 A.D. and 1650—950 years. Then it doubled again in 200 years—from 1650 to 1850. The third doubling took only 100 years—1850-1950, and in 1950 it was expected to double again in only 85 years.

In this country, population has been growing at an even faster rate than this forecast. Last week it was announced that in the past year our population increased by 3 million to 173 million. At this rate, U. S. population will be over 200 million by 1975 and will be nearly 300 million by the year 2,000, which is only 42 years away.

No wonder the privately-owned electric utility companies of the United States, based on their past experience, are planning an enormous increase of their generating capacity over the next 20 years at a capital cost of at least 70 billion dollars.

The world has been drawn closer together in recent years. Other peoples see what we in the United States have accomplished and they are learning why.

Throughout the world, population growth multiplied by rising standards will produce an insistent demand for more and more mechanical energy per capita. We will find ourselves in a race between the Free World and Soviet Russia to supply the other nations of the world with the means to meet their own energy needs. Within the Free World, the race may well be between the United States and Great Britain.

These mounting energy requirements, both here and abroad, will certainly tax our domestic and world-wide presently known resources of conventional fuels. The so-called fossil fuels in the ground are one of our nation's capital assets and should not be wasted.

The use of coal and oil for fuel purposes is really a comparatively recent development. For example, in the 1850's wood still supplied over 80% of the energy needs of this country. In this country, one-half of all the coal we have ever consumed has been burned since 1920 and nearly one-half of all the oil and gas we have consumed has been burned since 1940. Our consumption of oil and gas has expanded much faster than the discovery of new reserves. The fluid fuels today carry about 60% of the total U. S. energy load.

Our Growing Fuel Deficit

I am not one who views the future in such respects with alarm. But I do know that in the United States we are already consuming more oil than we are producing and it is becoming increasingly difficult to find oil in the United States, with new wells getting deeper and deeper and the production cost going up and up. And I think I know that if our

power industry were to depend on domestic oil and gas for fuel for the enormous expansion program facing it, there would be substantially higher fuel costs in the future than at present.

I think the era of unlimited supply and unrestricted use of fuels may be coming to an end. We will begin to use our fuel resources more wisely. Economy will force us to limit each fuel to the purpose for which it is best suited. Coal and oil may be too valuable as a source of carbons for petro-chemicals and for other purposes to permit us to burn them unrestrictedly under boilers. Oil products will provide fuel for mobile engines for a long time to come. But the larger-scale power plants, and many of the ocean-going vessels of the not too distant future, will be fueled by uranium. If this were not quite evident to me then I would view the future with alarm.

The uranium industry has grown rapidly in the past few years until today it ranks, both in size and in value of product, with the old established metal mining industries. But practically none of the uranium has been as yet used in the generation of electric energy. Its use to date has been primarily for military needs. Peace-time uses are just starting to come into play.

Explains Uranium as a Fuel

Perhaps I should say a few words here to explain how uranium works as a fuel. U. S. uranium ores contain, on the average, 1/4 of 1% uranium oxide. Thus, a ton of such ore contains about 5 pounds of oxide. When the ton is milled into concentrate and that

concentrate is refined through various processes there are losses so that the net yield for a ton of such average grade ore is substantially less than 4 pounds of uranium metal. But taking it as 4 pounds, only about 7/10 of 1% of this metal is naturally fissionable. This fissionable part is known as uranium isotope 235. So a ton of ore on the average will produce on this optimistic 4 pound assumption only about three one-hundredths of a pound, or something less than half an ounce of this naturally fissionable uranium 235.

But this uranium 235 packs a terrific punch. A pound of 235, a little larger than a cube of sugar, contains as much heat for release as about 1,500 tons of coal. Most of the remainder of the about 4 pounds of uranium metal which came from the ton of ore consists of uranium isotope 238. While this uranium 238 is not naturally fissionable, it can be made fissionable in part by bombarding it with escap neutrons from the fissioning of 235. The result of this is to convert or transmute the uranium 238 in part into a new element known as plutonium, which in turn is fissionable and, in the fissioning, gives heat.

The heat from uranium for power plant use is produced in reactors. There are many kinds of reactors being tried. Most of the reactors in this country use enriched uranium as fuel, by which I mean uranium that has had some more uranium 235 added to the natural uranium so that the 235 in the fuel is somewhat more than 7/10 of 1% just mentioned. The

Continued on page 22

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March 12, 1958.

*An address by Mr. Odum before San Francisco Society of Security Analysts, Feb. 25, 1958.

Dealer - Broker Investment Recommendations & Literature

It is understood that the firms mentioned will be pleased to send interested parties the following literature:

Aircraft Missile Manufacturing Industry—New study and appraisal—Joseph Walker & Sons, 120 Broadway, New York 5, N. Y.

Atomic Energy—Review—Harris, Upham & Co., 120 Broadway, New York 5, N. Y.

Atomic Letter (No. 35)—Analysis of fund investment in missile field—Atomic Development Securities Co., Inc., 1033 Thirtieth Street, N. W., Washington 7, D. C.

Bond Market—Review—New York Hanseatic Corporation, 120 Broadway, New York 5, N. Y.

Burnham View—Monthly investment letter—Burnham and Company, 15 Broad Street, New York 5, N. Y. Also available is current **Foreign Letter**.

Business Outlook for Japan in 1958—Review—Nomura Securities Co., Ltd., 61 Broadway, New York 6, N. Y.

Copper Industry—Memorandum—Talmage & Co., 111 Broadway, New York 6, N. Y.

Financing Government Deficits and Capital Investment Programs—Discussion—E. M. Saunders Limited, Victory Building, Toronto 1, Ont., Canada.

Fire Casualty Insurance Industry—1957 Operating results—Kidder, Peabody & Co., 17 Wall Street, New York 5, N. Y.

Highlights (No. 34)—Information on Housing Industry, Electronics and Cement companies—Troster, Singer & Co., 74 Trinity Place, New York 6, N. Y.

Introduction To Tax Exempt Bonds—Booklet—Scharff & Jones, Incorporated, 219 Carondelet Street, New Orleans 12, La.

Japanese Stocks—Current information—Yamaichi Securities Company of New York, Inc., 111 Broadway, New York 7, New York

Office Equipment—Survey—E. F. Hutton & Company, 61 Broadway, New York 6, N. Y.

Oil Industry—Review—H. Hentz & Co., 72 Wall Street, New York 5, N. Y.

Oils & Education—Shares held in portfolios of four leading universities—"The Exchange" Magazine, 11 Wall Street, New York 5, N. Y.—10c per copy; \$1.00 per year.

Over-the-Counter Index—Folder showing an up-to-date comparison between the listed industrial stocks used in the Dow-Jones Averages and the 35 over-the-counter industrial stocks used in the National Quotation Bureau Averages, both as to yield and market performance over a 19-year period—National Quotation Bureau, Inc., 46 Front Street, New York 4, N. Y.

Public Utility Common Stocks—Comparative figures—G. A. Saxton & Co., Inc., 52 Wall Street, New York 5, N. Y.

Recession Casualties—Selected shares selling at discounts of 37% or more—Francis I. du Pont & Co., 1 Wall Street, New York 5, N. Y.

Small Loan Companies—Discussion—The Milwaukee Company, 207 East Michigan Street, Milwaukee 2, Wis.

Steel Stocks—Analysis—du Pont, Homsey & Company, 31 Milk Street, Boston 9, Mass. Also in the same circular is an analysis of **Mack Trucks and Outboard Marine**.

American Encaustic Tiling Company, Inc.—1957 annual report—American Encaustic Tiling Company, Inc., Lansdale, Pa.

American Encaustic Tiling—Data—Abraham & Co., 120 Broadway, New York 5, N. Y. Also in the same bulletin are data on **Continental Baking Co.** and **Walgreen Company**.

American Machine & Foundry Company—Annual report—American Machine & Foundry Company, Mr. C. J. Johnson, Secretary, 261 Madison Ave., Rm. 219, New York 16, N. Y.

American Metal Climax, Inc.—Analysis—Purcell & Co., 50

Continued on page 53

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Impact of Economic Readjustment On Trust Investment Policies

By DR. MARCUS NADLER*
Professor of Finance, New York University
New York City

Extent to which changed course of economic direction may affect trust management and portfolio composition is examined by Dr. Nadler who advises long-run danger of further depreciation in the purchasing power of the dollar still exists—even though current readjustment may continue until the year's end and be followed by a period of stability before the economy will resume its upward course. The noted banking consultant concludes that: (1) common stocks have a definite place in estate portfolios; (2) low money rate's immediate trend is down but secular rate's is upward—though not above 1957 peak; (3) bond diversification is desirable; and (4) trusteeship is bound to increase with laymen's growing awareness of difficulties involved.

Introduction

For a number of years, the controversy over the relative importance of maintaining the safety of principal of an estate administered by a



Marcus Nadler

trust company as against the maintenance of its purchasing power has received a great deal of attention. During the recent boom, when prices of equities were rising sharply and bond prices and the purchasing power of the dollar were declining, the advocates of the purchasing power criterion gained ground rapidly. Some trust officers, and particularly co-trustees, advocated that an estate be invested almost entirely in equities. Even some conservative trust officers were satisfied to hold as much as 60%, and often more, in common stocks. So long as equity prices were rising, the advocates of this policy felt entirely justified, and the beneficiaries—both life tenant and remaindermen—approved their action.

The recent downturn in equity prices and the rise in bond prices, as well as the relative stability of commodity prices, have, however, created doubts in the minds of many persons, particularly conservative trust officers, as to whether such a policy is warranted. Many beneficiaries, seeing a sharp decline in stock prices, have become quite concerned; and the entire problem which by mid-1957 seemed to have been settled forever in favor of equities, is again the center of discussion. The uncertain economic outlook, the squeeze on profits, and the downturn in interest rates have raised the following questions:

*An address by Dr. Nadler before 39th Mid-Winter Trust Conference, American Bankers Association, New York City.

(1) Has the necessity of protecting the purchasing power of an estate administered by a trust company disappeared because of the relative stability of the price level? If that is the case, then the problem is largely solved, and keeping the principal intact will become the chief problem confronting the trust officer.

(2) If not, if the danger of inflation and a continued decline in the purchasing power of the dollar still exists, what course of action should a trust company follow, particularly in periods of declining equity prices?

(3) Is the present downtrend in interest rates cyclical or secular? If it is part of a long range trend, then the proper policy is the acquisition of long term, high grade bonds now. On the other hand, if the downtrend is only cyclical in character, it raises the question of how to obtain protection against another depreciation in the bond portfolio.

It is very easy to raise questions, but it is extremely difficult to find the proper answers. The search for security is constant; and even though one may not be able to find a perfect solution to all the problems that confront the trust officer, the raising of questions at least throws some light on the problems.

Has the danger of continued inflation disappeared? Before answering this question, one has to consider the present economic outlook and to arrive at a judgment as to whether the forces which contributed to the rise in prices during recent years will be eliminated by the current readjustment.

The Situation Today

It is evident that the great investment boom which was so pronounced during 1956 and 1957 has come to an end. The productive capacity of the country is greater than the present effective demand for goods. Competition is keen, there is a strong squeeze on the margin of profits, and the economic climate has changed from one of optimism to one of pessimism. These factors do not augur

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Vincent Reilly Joins Ranks of Grandfathers

It seems that the ink had hardly dried on the notice in these columns of Hal Murphy becoming a grandfather before his associate in our advertising department, Vincent Reilly, came "busting" through the door to announce that he, too, has joined the ranks. The lovely 3 pound 10 ounce newcomer will be known as Helen Marie Rothmann and



F. Vincent Reilly

is the first born of Vince's daughter, Helen Marie. The proud father, Arthur H. Rothmann, is acting in the manner traditional to brand-new daddies and bids fair to remain "up in the clouds" for an indefinite future. Happily, both mother and daughter are in the "pink," and grandpop Vincent and his missus, Helen, naturally are beside themselves with joy over the blessed event. Grandpa Reilly will be the target of some good-natured ribbing on his next trip, particularly when he attends the April 23-25 Annual Meeting of the Texas Group of the IBA in Houston.

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Moynahan & Co., Inc. has been formed with offices at 111 Broadway, New York City, to act as dealers in general market securities. Officers are Theodore J. Moynahan, President; Stuart A. Buckman, Vice-President; and M. A. Thehusson, Secretary and Treasurer. Mr. Moynahan and Mr. Buckman were formerly with Coburn & Middlebrook, Inc. and Homer



T. J. Moynahan

McConnell & Co., Inc. The new firm will shortly open a branch office at 614 Central Avenue, East Orange, N. J., under the direction of Mr. Buckman.

Also associated with the new firm are Natalie E. Bennett, Ernest J. Hall, William J. Hanley, A. Joseph Paul, Fred W. Piper, James A. Roberts, L. L. Robinson, Richard S. Sanborn, Rodney B. Squiers and Henry Van Campen. Walfred N. Sund is Cashier.

New V.-Ps. For Harriman Ripley

Joseph P. Ripley, chairman of Harriman Ripley & Co., Incorporated, 63 Wall Street, New York City, announced that the following have been elected assistant vice presidents of the company: Richard T. Kearns; Charles F. McManus; William H. Hastings; C. Clarke Ambrose; F. Donald Kenney, and T. Herbert Shriver, II.

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"What Price National Strength"

By DAVID ROCKEFELLER*

Vice-Chairman Board of Directors
The Chase Manhattan Bank, New York City

Based on, and after summing up, overall conclusions of Rockefeller Military Security study, the noted banker contends continuance of 4% average growth rate would enable increased national defense spending of \$3 billion annually for next several years to be made without stopping living standards from rising. Mr. Rockefeller concludes major long-term economic problem will be producing enough to meet inevitable demand, and suggests encouraging output by revamping our tax system, utilizing manpower at all levels, supporting research and ensuring adequate supplies of raw materials and fuels at reasonable prices. States defense effort cannot permit major tax reductions and might require moderate rise in tax yields at state-local level. Turning to present recession, agrees every effort should be made to check it, and notes monetary-tax ease will occur as required.

I should like to discuss some of the results of the studies recently undertaken by the Special Studies Project of the Rockefeller Brothers Fund. Some may have seen the first report that was issued, or have at least read accounts of it in the press. This Report, "International Security—The Military Aspect", is, as its title implies, addressed to the problems of meeting the challenge our nation faces in the military sphere. I must say that the response to it has been most encouraging — so much so that more than 400,000 copies had to be printed to meet the demand.



David Rockefeller

Evolution of Rockefeller Special Study

Perhaps it would be interesting if I were first to outline briefly the general scope of the Special Studies Project, and how it originated. The Project grew out of the conviction of the Trustees of the Rockefeller Brothers Fund that there was a need to bring the nation's best thinking to bear on a major reappraisal of our goals, and a statement of the problems facing the United States in the years ahead in the light of a rapidly changing world situation. To this end, the Fund undertook to assemble a group of citizens of stature who were given the task of studying and redefining the issues that confront the nation today. While much important work is already being done in Government on many specific problems by such agencies as the National Security Council, the Policy and Planning Board in the State Department, and the Council of Economic Advisers, most of this effort is necessarily limited. No one governmental group is charged with considering the full scope of what the nation may face in the years ahead. Furthermore, we all recognize that government officials are so harassed by urgent matters which must be dealt with from day to day that they have far too little time to reflect upon the general sweep of events, or a policy for the future.

Accordingly, the Rockefeller Brothers Fund organized the Special Studies Project in June 1956 with the aim of defining the problems and opportunities our nation is likely to face over the next ten or fifteen years; of reviewing our national purposes and objectives; and of developing conclusions and recommendations on which policies could be based. The Fund felt that a study of this kind would serve a constructive purpose in

helping the people of the country to come to a better understanding of the complex and difficult problems which confront our public servants, both in the Executive Departments and in the Congress.

Some 100 outstanding Americans have been serving on the Overall Panel and the seven Subpanels which were set up. The extensive discussions at the Panel sessions have been oriented and enriched by several scores of papers prepared by the most competent experts which could be found in various fields. Many of these experts also participated in the Panel discussions.

The seven Subpanels cover the following fields: international objectives, international security—the military aspect, foreign economic policy, domestic economic and social objectives, education and manpower, the democratic process and the moral framework of national purpose. During the past weeks, each of the Subpanels has been at work drafting a Report in its field. To give you some idea of the intensity of the effort, about 50 Panel meetings have been held so far, most of them lasting the better part of two days.

Just to give an idea of the varied composition of the Panels, I might mention that they include such people as Arthur F. Burns, President of the National Bureau of Economic Research; David Sarnoff, Chairman of the Radio Corporation of America; General Lucius D. Clay, former Commander-in-Chief, U. S. Forces in Europe; John S. Dickey, President of Dartmouth College; Oveta Culp Hobby, former Secretary of Health, Education and Welfare; Jacob S. Potofsky, General President, Amalgamated Clothing Workers of America; Henry R. Luce, Editor-in-Chief of Time, Life, Fortune; Anna M. Rosenberg, former Assistant Secretary of Defense for Manpower and Personnel; Dr. Edward Teller, Associate Director, University of California Radiation Laboratories, J. Cameron Thomson and John Cowles. As you can see, from this sample, the Project has drawn together people with broad experience in many fields—business, government, labor, education and science.

It is impossible to over-emphasize our debt to everyone who has worked so hard on the project. The fact that so many busy people have been willing to devote a substantial part of their time to this enterprise is to me a heartening sign that our nation is sincerely concerned with the problems and challenges we face.

I have devoted some time to a description of the purposes and procedures of the Special Studies Project, because I believe it is important to understand the broad framework within which the Report on Military Security was prepared. But while military security is our most urgent concern, it is not necessarily the most important in the long run. In the words of the Panel:

"Our goal is a world under law; our aspiration is an international community from which the threat of war has been removed and based on respect for individual and national dignity. But we will not realize these aims unless we are prepared to make the effort required to survive. We must, therefore, strike a fine balance between vigilance and conciliation, prepared to use force to defend freedom, but wary not to let force become an end in itself. Power can only give us security against immediate dangers. In the long run, our security is founded in the principles for which we stand and in the confidence which we earn."

Although the work of the six other Subpanels was still in process, it was decided to release the Report on Military Security because of its urgent importance. Several of the other Reports are now in their final stages, however, and they will be released shortly. I shall turn first to the general findings and conclusions of the Report on military matters, and then I shall try to tell you something of the results of deliberations in other fields.

Sums Up Military Study

The overall conclusion of the Panel that considered our military security can best be summed up in the following quotation from the Report of Panel II:

"It is our judgment that all is not well with present U. S. security policies and operations. The overall U. S. strategic concept lags behind developments in technology and in the world political situation. In major respects defense organization is unrelated to critically important military missions. Systems of budgets, appropriations, and financial management are out of gear with the radically accelerating flow of military developments. The United States system of alliances must be adapted to constantly changing strategic re-

quirements. The United States is rapidly losing its lead in the race of military technology. We are convinced that corrective steps must be taken now. We believe that the security of the United States transcends normal budgetary considerations and that the national economy can afford the necessary measures."

The Report goes on to point out that we have suffered from a tendency to underestimate the military technology of the Soviet Union ever since World War II. Thus, to our surprise, we are finding that today Soviet science is at least equal to our own in many strategically significant categories. As a result of concentrating on military technology and production, the Soviet has an impressive and rapidly growing military establishment which poses a very serious threat to the free world. Soviet ground forces are far larger than our own, and they are being re-equipped for atomic war. The Soviet navy has more than 400 submarines in operation, and there is no doubt of their capacity to develop nuclear submarines and to equip them with missiles. The seriousness of this threat becomes clear when it is recognized that 43 of our 50 largest cities, and 85% of our industry, are located within 500 miles of our coasts. It is clear that within a few years the U.S.S.R. will be capable of delivering massive air and missile attacks against all major targets in the non-communist world.

Formidable though these Russian forces are, we, nevertheless, still have at present a superior military potential. For perhaps the next two years, any Soviet attack on us would meet a crushing reply. However, this fact leaves little room for complacency. Unless present trends are reversed, the world balance of power will shift in favor of the Soviet bloc, to the peril of the free world. The problem is not that we are now behind the Soviets on the military front—in

fact, we are still ahead. But, they are gaining at a rate that threatens to close the gap. However, the Report is emphatic in stating that it is not too late if we are prepared to make the required big defense effort now, and in the years ahead.

Action Program

What is it then that we need to do? The Panel's conclusions can be summed up in this fashion:

(1) The United States would never fight a preventive war. But the United States and the rest of the free world must be prepared to resist any of three types of aggression: all-out war, limited war, and non-overt aggression (such as coup d'etat or civil war).

(2) To deter aggression, we must be prepared to fight if necessary a nuclear war, either all-out or limited.

(3) There are major shortcomings in our military capabilities at present. Our retaliatory force is inadequately dispersed and protected; our defense is insufficient, we lack mobility and versatility for limited war. This means that we must increase our efforts in the production of missiles and aircraft, anti-missile missiles, submarine missiles, and the like.

(4) Basic changes are needed in our defense organization to correct the inefficiency and duplication of effort growing out of interservice rivalry.

(5) We must strengthen the regional groups of nations, such as the North Atlantic Treaty Organization, and the Southeast Asia Treaty Organization.

(6) To accomplish all this, the United States must help in the development of a common strategic concept, in the re-equipping of allied forces, in fostering political cohesiveness and in economic and technical cooperation. We must also pool scientific and technical information with our

Continued on page 35

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March 7, 1958.

*An address by Mr. Rockefeller before the Minneapolis Junior Chamber of Commerce, Minneapolis, Minn., March 6, 1958.

Estate Taxes and Business Mergers

By HAROLD M. SOMERS*
Dean and Professor of Economics,
School of Business Administration
Lecturer in Law, University of Buffalo
Member of the New York Bar

Dean Somers deals with the problem of a firm's survival when a key executive or partner or major stockholder dies, and offers salvatory suggestions after reviewing current practices of firms, particularly closely-held ones, trying to protect their entities. While insurance, stock-redemption and cross-purchase plans are found to have their advantages, the Economist notes they do not deal with the principal cause of the merger or sale of small firms to large corporations; i. e., the estate tax. Author outlines major revisions to lessen estate tax uncertainty and illiquidity which is said to present an extraneous bias in merger-sale decisions.

The estate tax is one of the factors contributing to the merger of small businesses into large corporations. We shall examine the tax in an effort to see why it has this effect.

There are two aspects of the estate tax that affect business structure and practices in closely-held corporations: (1) uncertainty as to how much the tax will be, and (2) fear of insufficient liquidity to pay the tax.

The major elements of uncertainty lie in (1) the valuation of closely-held securities; (2) the application of the attribution rules; and (3) the variety of court decisions on the same point of law.

The illiquidity results from the fact that shares in closely-held corporations are hard to sell on death of one of the owners; and even when a buyer is available there is the danger of bringing in a stranger who may disrupt the operation of the business to the detriment of surviving owners or heirs.

In order to appreciate the significance of these factors we must review the practices of companies, especially closely-held companies, in trying to guard against the consequences of losing a key man or a major stockholder or owner.

Nature of the Problem

The death of a key man in any business firm must necessarily result in a pecuniary loss to that firm. His experience, contacts and know-how are gone forever. If he was also a partner or a major stockholder his death may bring about the death of the business enterprise itself. There may even be a fate worse than death such as mismanagement and persistent wasting-away of assets. The problem of ensuring business survival in the face of the death of a major executive, partner, or shareholder is a matter that is of great importance to every business firm.

Loss of a Key Executive

There are various ways of minimizing the effects of the loss of the key executive. Key-man insurance will give the company a financial offset to the loss of valuable services even if there is no partnership or shareholder element involved. The company takes out insurance on the life of its executive and receives the face amount of the policy on his death. The premium payments are regarded as a form of investment and are not tax deductible. The proceeds of the policy are tax free. The estate of the deceased executive is not affected in any way as long as the deceased was not the owner of the company and as long

*An address by Dean Somers before the American Finance Association's annual convention, Philadelphia.



Harold M. Somers

as he had no "incidents of ownership" in the policy, such as the right to change the beneficiary, which in this case is the company. The company thus receives a sum of money as compensation for the loss of earning power suffered by it through the death of the executive. Estate taxes are not assessed against the proceeds of the policy and the survival of the company is at least temporarily assured. The proceeds of the policy may tide the company over a low period until adequate managerial skill is acquired from within or without to replace the executive who was lost through death.

Even if the deceased executive was so indispensable that a liquidation of the company resulted from his death, the cash received through insurance may make up some or all of the difference between going-concern value and liquidation value of the firm. This protects the owners of the company from a loss in capital value as a result of the death. There should, of course, be someone ready to step into the dead man's shoes immediately and effectively but this ideal of management cannot always be achieved. The next best thing is to have a financial replacement of the departed executive.

Loss of a Major Stockholder Or Partner

So much for the case of the key man has no ownership interest. The more challenging and more complicated problems arise when the estate of the deceased has a partnership or shareholder interest in the firm. It is usually desirable to relieve the estate of this ownership interest as soon as possible to ensure the survival of the business (to say nothing of the desirability of the estate's acquiring cash in place of its ownership interest). During the period of administration of the estate, a large ownership block that is controlled by an executor or administrator will tend to hamper any dynamic firm. Even the best intentioned fiduciary will tend to be conservative in view of the legal restrictions imposed on him. If, in addition, the executor lacks business experience, as is often the case of a widow, there is serious danger to the firm. For the sake of business survival it is desirable for the firm or the surviving owners to recapture the ownership interest as soon as possible.

Stock purchase agreements; stock redemption and cross purchase plans

How can we get the ownership interest out of the estate? Either the corporation must buy out the interest or one of the surviving owners (partner or shareholder) must do so. The two devices are known as "stock-redemption" plans and "cross-purchase" agreements. Both methods come under the heading of "stock-purchase" agreements. Under the stock-redemption plans the company buys out all or part of the deceased stockholder's interest. Under

cross-purchase agreements the surviving stockholders or partners buy out the interest of the deceased. Thus the company is assured of non-interference from the estate or its representatives or from beneficiaries or from strangers to whom the estate or the beneficiaries might sell the interest of the deceased.

The estate and thus the beneficiaries (such as the widow and orphans) gain in various ways. They gain through the cash acquired to pay funeral and administrative expenses and estate taxes and through the assurance of receiving a cash legacy for what might otherwise be a hard-to-liquidate partnership or shareholder interest in a closely-held company. The also gain through the fact that the stock redemption plan or cross-purchase agreement will reduce or eliminate disagreement over the valuation of the ownership interest for estate tax purposes.

Valuation problems

The problem of valuation cannot be minimized. The surviving business firm and the estate are crucially concerned with the value put on the ownership interest. Endless wrangling can be avoided by having either the stock redemption plan or the cross-purchase agreement specify the price at which the ownership interest is to be recaptured. Where there is a ready market for securities there is usually little difficulty. Even here there is a problem of deciding which stock market quotation to use. Generally, the procedure is to take the average of the high and low on the day of death; alternatively, one can take the value one year after death. There are complications introduced by the problem of "blockage." The stock market quotation is not reliable when there is a large block of stock to be liquidated. In that case, the stock market quotation is generally regarded as being too high. Occasionally, however, the opposite is true: a controlling block of stock may get more than the current stock market quotation.

The problems of valuation of closely-held stock, absent a price fixed by agreement, are well illustrated by a recent Tax Court case. *Cora Fitts v. Commissioner*, 237 Fed. (2d) 729, (C.A. 8th, 1956). The facts (somewhat modified for purposes of this illustration) were: the taxpayer submitted a value of \$150 per share; the Commissioner used a value of \$600; four experts set values ranging from a low of \$150 to a high of \$225. The Tax Court, after saying that all the appraisers had some qualifications and that their testimony was not ignored, set a value of \$375. This happens to be the average of \$150 and \$600. It also happens to be the sum of \$150 and \$225. If the latter is the basis of the figure of \$375, it suggests some danger in having too many appraisers; their valuations may simply be totalled by the Tax Court!

Stock redemption for taxes and administrative expenses; attribution rules

The use of a stock redemption plan is encouraged by Section 303 of the Internal Revenue Code which permits sufficient stock redemption—if certain percentage requirements are met—to cover estate taxes and funeral and administrative expenses without fear that the cash received by the estate would be declared substantially the equivalent of a dividend and thus taxable as income to the estate of the deceased. Beyond this amount, however, there is the danger that the redemption will be treated as income to the estate and taxed at ordinary income tax rates unless there is a redemption of the total holdings of the deceased. The difficulty, however, is that estate beneficiaries' holdings are included in deciding

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Semiconductor Industry's Outlook And Electronic Industry's Future

By H. BRAINARD FANCHER*
General Manager, Semiconductor Products Department
General Electric Company, Syracuse, N. Y.

Transistors and other semiconductors, now produced by 40 manufacturers, should find a seven fold increase in sales to \$1 billion annually in 1967, Mr. Fancher predicts, making possible \$12.5 billion new electronic equipment in that same year. Though in 1958 alone, semiconductor sales should expand 33% or \$200 million, according to General Electric Engineering executive, "the next three to five years will undoubtedly be the most crucial and difficult in the industry's experience." The writer analyzes semiconductor industry's financial survival prerequisites and potential ability to make electronic equipment industry of the future unrecognizable as such, and emphasizes need to plow-back earnings in order to continue basic research, development, mechanization and attractiveness to new financing.

Although semiconductors formed the heart of the galena crystal radio sets of 30 and 40 years ago, the story of the modern semiconductor industry really starts just before World War II. At that time research laboratories were working with a somewhat new method of electronically sensing objects, now called radar. British and American scientists, in their development work in radar found that vacuum tube diodes did not do the detection job needed. Because the need for a device to fill the need was urgent, crash programs were instituted in many research laboratories. General Electric developed and produced some silicon diodes for this purpose for one type of radar and later found that germanium diodes were better suited to the needs of a different type radar set. Several thousands of these devices were produced during the war. The interest generated in germanium and silicon during the war led the General Electric Company to further research efforts in solid state physics after the war. In 1946 it started producing quantities of a stable, low frequency diode of germanium useful in many commercial electronic applications. The germanium diode began to flourish in 1948 and by 1950 was in widespread use in computer circuits, control devices and almost every television receiver. Little publicity was given this device, however, because it was overshadowed quickly by the 1948 Bell Lab announcement of a three element amplifying device made of germanium and called a transistor. The transistor excited the interest of the scientific world because of its fascinating theoretical features of long life and low power requirements which could liberate electronic equipment from the limitations of vacuum tubes.

A transistor is usually described by the press as a "pea sized device" that does the same job as the much larger vacuum tube. And that just about describes it to most people. It does do the same job as a vacuum tube; namely, to amplify a small volume of electrical energy into a larger volume of energy. However, the principle by which it operates, the movement of electrons and holes in a solid, is considerably different. This difference from electron tubes gives rise to its outstanding advantages.

*An address by Mr. Fancher before the Cleveland Society of Security Analysts, Cleveland, Ohio.

The greatest impetus to the rapid development of transistors has been the increasing military dependence on electronics to meet the growing complexity of modern warfare. Every designer of military equipment had been looking for a smaller size active electronic component with increased reliability, improved performance, less heat dissipation, less power drain, less weight, and longer life. Because of the simplicity of a transistor, all of these desires can be accomplished to some degree.

There are no filaments in a transistor as in a tube, which results in less connections, and far less power used or heat generated. In fact the transistor may require only 1/100th the power of a tube. This of course further reduces the size of power supplies and thus the overall size of equipment.

Since the transistor is a smaller device with a few simple parts, it is far more rugged and can better withstand the shock and vibration to which military and industrial equipment is subjected.

Finally, but of extreme importance, is the useful life of a transistor. Regular commercial vacuum tubes have an expected life of 80% survival after 1,000 hours of operation. Highly stabilized 5-star tubes have an expectancy of 95% in 1,000 hours. Transistors however have been demonstrated to have a life of 98% survival at 10,000 hours.

In our engineering laboratories at Electronics Park we have some transistors on life test now exceeding 26,000 hours with no change of characteristics. This is the equivalent of nine years at eight hours a day — longer than most electronic equipment will last. Our most famous test however concerns the groups of transistors we fired from a mortar. They worked afterwards. The shock they had withstood was about 15,000 G's or 15,000 times their weight.

So far I have emphasized the transistor as a small, dependable and rugged device. But what is the basic transistor—and how in general does it operate? I have mentioned that it is an amplifier. Perhaps a more accurate definition would be to call it a "control device." The purpose of such a device is to control large amounts of electrical power with very little power expended to do this. In vacuum tubes this is accomplished by boiling electrons off a very special filament wire into space and collecting these electrons on another piece of metal called a "plate," and at the same time regulating the number of these electrons that reach the plate by a small screen of wire. It is the very process of boiling the electrons from the filament in a vacuum tube that costs money, creates undesired heat in equipment, and causes the tube to wear out.

In the transistor the electron

Continued on page 28

From Washington Ahead of the News

By CARLISLE BARGERON

Looking into the future for our problems and worries, you get the impression from the conduct of the politicians on Capitol Hill that the terrible fear and excitement caused by the Russians launching of two sputniks is over, that there is no hay to be made against the Administration on that score. We seem to be having trouble getting the second Explorer into the orbit but we got one up there and the politicians sense that it is the mood of the people that this is satisfying. Also there is the general expectation that something even more spectacular will be accomplished before the November elections which will remove an alleged inadequacy of defense as an issue.

Perhaps, in no other one man is it possible to read the signs of the political times more than in the Democratic leader, Senator Lyndon Johnson. When the Russians sent up their first sputnik he thought he had the Administration over the barrel. It was before the Christmas holidays. He rushed to Washington and called a committee meeting to which sundry scientists were called to berate the Administration for not having given them enough money and not having treated them with the proper importance. It looked as though the Administration was truly in for some stormy weather and about this time the President suffered from what is commonly called a stroke.

But the President recovered quickly and we got a satellite into the orbit. The babbling of the scientists has been more-or-less quieted, the agitation that we do over our education system to make it conform to the Russians has died down and we have more-or-less resumed the even tenor of our way.

To take the place of this controversy has come the recession or depression or readjustment—whatever you want to call it. Lyndon Johnson has taken it up as an issue and his fellow Democrats are following right along behind him, some of them even out in front.

The economists who are saying there will be an upward turn to the contrary, Lyndon Johnson and his fellow Democrats think unemployment will be with us next November and if they keep up their scare talk there is no reason why it shouldn't be.

In this writer's mind our present trouble can be traced back to the mid-40's just as the war was ending. The Leftists made a determined drive through a committee headed by Senator Jim Murray, the multimillionaire bleeding heart of Montana, for a "planned economy." Walter Reuther was one of the prime movers. Under their plan, the Government each year would size up the national production and how many jobs this would create. If it would not create enough the Government was to add the necessary amount to the national production.

A group of conservatives headed by the late Senator Walter George got together and whipped up legislation designed to head off this Leftist scheme. They had to accept some of the propositions of

the Leftists and one of these was the creation of a national economic council which would keep the President always advised on the state of the national economy. This seemed harmless enough, just a few more jobs for economists in the Government.

But George and his colleagues reckoned without the importance which these economists were to assume. Instead of just quietly advising the President they made themselves national spokesmen and set out to be policy makers. They frequently didn't like the way the more than 170 million people in this country were living, they were buying too many automobiles, too many washing machines. Industry was spending too much on expansion, we were having what these economists called an inflation.

They went out almost as a unit to break the greatest and most solid prosperity this country ever enjoyed. The people finally began to heed them and agree that they would keep their old automobile, their old washing machine. Industry agreed that it would slow down on spending. The Federal Reserve Board, with the Administration's connivance, entered the act and boosted the cost of money. Now these gentlemen are trying to turn the spout on again and they are finding it is not easy.

Although Herbert Hoover got the blame for the 1929 collapse it should have been a surprise to nobody. It was a fictitious, paper or stock market prosperity we had been enjoying and people generally had been predicting for months that there had to be a collapse on the basis that everything that goes up must come down. I remember very vividly the day the newspapermen in the Press Gallery at the Capitol read on the news ticker of the first stock market drop. Here it is, they agreed, right on schedule like a railroad train.

There is no excuse for the trouble we are having now.

Richard W. Barringer Joins C. C. Collings

PHILADELPHIA, Pa.—The investment securities firm of C. C. Collings and Company, Inc., Fidelity-Philadelphia Trust Building, announced that Richard W. Barringer has become associated with their Municipal Department. Prior to joining C. C. Collings and Company, Mr. Barringer had been Township Secretary of Radnor Township, Delaware County, Pa., for the past eight years, and previously had had extensive experience in governmental and accounting work.



Richard W. Barringer

Geo. E. Sozek Forms Own Investment Co.

George E. Sozek has formed Geo. E. Sozek Co. with offices at 40 Exchange Place, New York City to act as brokers and dealers in investment securities. Mr. Sozek was formerly co-manager of the trading department of Glokin & Co.

The Economic Outlook

By A. W. ZELOMEK*

President and Economist

International Statistical Bureau, Inc., New York City
Visiting Professor, Graduate School of Business
Administration, University of Virginia

By analyzing the reasons for the current business downturn and its probable extent, Mr. Zelomek comes up with the conclusion that the greatest portion of the current decline in the general business trend has been seen, despite very little likelihood of an immediate sharp upturn. The business economist discerns two differences between this and 1954 recession, indicative of an upturn of lesser intensity, and sees the consumer as the answer to this year's recovery and doubts he is or will be frightened.

Several times since the 1929-1930 depression we have been faced with business readjustments, and each time the fear of another 1930-32 was very great. Therefore, it is not surprising that the 1957-58 decline to date is again causing concern.

If there is any question whether this concern exists, all one has to do is read the daily papers and trade press, listen to the radio, watch television, and note the increasing number of job applicants. We are currently in a business readjustment. To some extent, it has been slightly greater than some of us had expected; in other respects it is not much different than the one in 1953-54 and possibly 1948-49. There is certainly no comparison to 1930, 1931 or 1937.

This is not an easy period for the economic forecaster, even for those of us who had expected this cyclical readjustment. Those who questioned the expected downturn are now questioning the expected upturn. Those who were projecting the long-term future in glowing terms through straight line growth because of population and increased living standards are now beginning to wonder whether this is the answer. If we add up all the uncertainties, the unfavorable and favorable influences, the current situation is no different than the previous periods of readjustments such as 1948-49 and 1953-54.

Having lived through 33 years of economic analysis and forecasting, I sometimes wonder whether the economic analysts should not study psychology as a basis for economic forecasting. As one who advises hundreds of businessmen through our various services, consulting work and special studies, it is always amazing to me to find that it is much easier to encourage the businessman to buy more liberally after markets have risen sharply and to estimate sales more liberally when volume has expanded markedly and to increase production facilities after a sharp advance, than it is to convince him that we are at a bottom and that it is much more sensible to be more liberal after liquidation, whether it is commodity prices, securities, sales or production.

The purchasing agents have an excellent knowledge and understanding of commodities and industries. They have to if they are to be successful. As a group they have been quite realistic in your operations.

My aim is to try to provide some background information in a way that will be helpful. By analyzing the reasons for the current downturn in business and its

*An address by Mr. Zelomek before the Purchasing Agents Association of Connecticut, Inc., New Haven, Conn., Feb. 25, 1958.



A. W. Zelomek

probable extent, we should be able to come up with some conclusions about how long it will last, how far it will go, and when and where it will first begin to pick up. I'll have to give you some figures — not too many — but they're necessary to give you the basis for my conclusions. Because I believe that my forecasts are as solidly grounded as forecasts can be.

Complaints about bad business are rampant now — among producers and distributors, large organizations and small ones. There is no denying that general business is down markedly from the high, and that we are in a period of readjustment. As a matter of fact, this readjustment was indicated as long ago as last year by those who were then able to recognize the signs.

However, forecasts by the prophets of doom are far more alarming than warranted by the actual facts. A lot of the important indicators are making excellent showings in relation to earlier

years, even granting that they are showing declines from the highs.

Ever since the early 1940's we have been scaling the heights, and we've become rather accustomed to sailing in the clouds. Perhaps that is why the current decline seems to assume unwarranted proportions. But this is a decline from the highest peak of all, and perhaps this will help us keep the present situation in perspective.

Since the end of the war, many have been expecting a sharp business decline. Thus, when a readjustment does come along, too many people think — this is it. They expect it to be another 1937-38, or even a 1930-32. These predictions are based on the false premise that history always repeats itself.

I say it is a false premise because those who make the comparison evidently do not realize how different the present situation is from the previous periods to which they refer.

Can't Afford Depression

They do not realize that although history does not necessarily repeat itself, it does teach us something about our mistakes. In my book "No Major Depression in Our Lifetime" published originally late in 1953 and shortly to have its second edition released soon, I make the point that the responsibilities imposed on America by virtue of her world leadership will force us to avoid a major depression now or any time in our lifetime.

If this sounds overconfident, let me give you the facts.

Production is off nearly 10% from the 1956 high.

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Electronic Equipment Sales To Banking Industry

By WILLIAM G. DAMROTH

Vice-President, Nucleonics, Chemistry of Electronics Shares

Explanation why banking has more reason to welcome automation at this time than most industries is pointed out by Mr. Damroth. Now that equipment is coming within price reach, the writer predicts sales to banks may amount to \$500,000,000 in next five to eight years. Discusses receptiveness of different types of banking to partially or fully automated systems and firms catering to such demand.

In our studies of the impact of electronics on various fields, it is our conviction that banking has more reason to welcome automation at this time than most industries. For some time now the banking industry has been studying the problem of manpower requirements. Each year banks are finding it harder and harder to get qualified workers and yet are offering more and more services to get more and more accounts. What clerks they do get each year come higher—at a wage rate that is moving up at a cumulative 4% a year. Meanwhile the long range forecast indicates this problem will grow more acute. In this forecast the nation's workforce as a whole is not expected to increase as rapidly as population. To experts in the banking field automation of typical operations seem to offer the only possible alternative to the problems of more bookkeeping, relentless wage inflation and fewer workers.

As a consequence the banking industry today is ready and has been waiting for the kind of electronic equipment it must have at a price it can afford to pay. And for some years past the major electronic companies have been working on these requirements.

Now with much of this equipment developed and beginning to reach its market, the banking industry is on its way to becoming one of the largest single markets for electronic companies. And the major electronic companies are well aware of this.

Sees \$500,000,000 Sales in 8 Years

Within the electronic industry estimates of the size of this banking market vary considerably. But even so there seems little doubt that it could amount to as much as \$500,000,000 over the next five to eight years.

The newly developed electronic equipment for banks ranges from small comparatively low-priced machines for posting to completely automatic systems for handling savings and mortgage operations. It also includes experimental demand deposit systems for automatic sorting, listing, posting and totaling random-sized checks. Costs range from as low as \$11,000 per unit to upwards of \$1,000,000 per system.

Until recently electronic banking equipment consisted almost exclusively of book-keeping machines and the purchase of these was confined to upwards of a hundred of the larger institutions.

Of the new electronic equipment the market for savings bank automation systems alone, according to one manufacturer, comprises 400 large banks, plus several thousand small banks that might economically utilize the system through cooperative purchase. Another manufacturer sees this same market limited to 100 of the larger institutions. By

either estimate the market for this system is quite sizable as savings bank systems of this type cost at present prices from \$1,000,000 to \$2,000,000. They are custom built and vary in price according to specifications. Ultimately the market for either fully or partially automated systems of this kind is to be found among the nation's 500 savings banks, 12,000 commercial banks with savings accounts, and 6,000 savings and loan associations.

Sale of Automated Systems

The first such system—designed specifically to handle savings and mortgage operations—is scheduled for delivery later in the year to Howard Savings Institution in Newark. A second and a third system are to be delivered subsequently to the Union Dime Savings Bank in New York and the Society of Savings in Hartford. They are the product of Tele-register Corporation. A number of other electronic concerns also are working to meet savings bank needs. Among them are the Laboratory for Electronics, International Business Machines Corp., Burroughs Corp., Radio Corporation of America and others. One company is shooting specifically for a system for cooperative use by smaller banks. Out of this work savings bankers look for a lowering of automation costs in the future.

For larger commercial banks the day of the completely automatic system for handling checks is almost at hand. In the system the checks are to be coded with magnetic ink visible to customers and readable by electronic instruments. The banking industry already has specified where the coded information is to be placed on checks but has yet to specify a standard type font for encoding use.

Meanwhile at least one completely workable laboratory test model of an electronic bank deposit system is already developed by a major electronic concern. The machine in operation at IBM's Product Development Laboratory at Poughkeepsie, N. Y., was built to gain bank-systems experience. It posts current transactions and detects overdrafts, stop payments, holds or any other required data. It handles checks code-inscribed in magnetic ink. The actual system that IBM will market will substitute the specifications of the banking industry for the code on its experimental model. This prototype as well as others like it such as the "Electronic Recording Machine-Accounting" developed by the Stanford Research Institute for the Bank of America will cost as much or more than the expensive automatic systems now being built for the savings banks.

Solve Personnel Scarcity

For the large commercial banks automation of this kind is expected to provide a solution to the problems of personnel shortages, labor-turnover and broadening of service. It is expected that these complete assembly lines or check automation units will be ready for installation about two years after final technical specifications by the banking industry.

This sort of equipment is out

of sight for the medium-sized and small commercial banks. For them special machines "less automated" and much less expensive are being made available. The first of these was placed on the market last year by the National Cash Register Company under the trade name "Post-Tronic". This machine is designed for posting—an operation that usually requires two clerks. National's machine takes the check, posts the new amount on the correct line, casts—and verifies—the new balance. It also detects over-drafts, stops and holds. It does not eliminate the manual operations of selecting the right account card and feeding in the amount of the check.

The first "Post-Tronic" installation was made last Spring at the Clifton National Bank & Trust Company. In the expensive field of computers this machine is relatively cheap at approximately \$11,000. Of course the average small commercial bank requires several units. Since last Spring, 1,155 Post-Tronic machines have been installed in some 250 banks in 38 states, the District of Columbia, Canada and Alaska. Such rapid and broad acceptance would indicate that the smaller banking institutions are alert to the necessity for automation and anxious to do something about it when the appropriate electronic equipment is available.

While electronic equipment frequently poses many problems wherever it may have application, there is every indication that the banking industry has carefully prepared for automation. For among large and small banks alike there seems to be a general sentiment that through automation the industry can perform old tasks better and reach new levels of achievement. This receptiveness could have the effect of creating a very substantial market for electronic banking equipment in much faster time than most electronic concerns have anticipated.

Stralem Named Pres. Of USO Fund of NY

Donald S. Stralem, a partner in the firm of Hallgarten & Co., investment bankers, has been elected President of USO Fund of New York, Inc., for the year 1958.

Mr. Stralem has served as Chairman of the New York City USO Committee for the past two years. Long associated with Armed Forces welfare activities, he received a certificate of commendation from the Navy in 1943 for contributing to the welfare of its personnel.

USO Fund of New York seeks to raise \$1,600,000 during 1958. The money will be used to support USO clubs and entertainment troupes serving United States military forces throughout the world.

In addition to his USO activities, Mr. Stralem serves as Chairman on the National Travelers Aid Association Executive Committee. He also is President of Shelter Rock Foundation, Inc., and Board Chairman of George Junior Republic.

Now With Bache & Co.

(Special to THE FINANCIAL CHRONICLE)

KANSAS CITY, Mo.—Robert E. Lacy has become affiliated with Bache & Co., 1000 Baltimore Ave. He was formerly with Harris, Upham & Co.

Finding an Attractive Place For Small Commercial Farmer

By DR. KENNETH E. BOULDING*

Department of Economics
University of Michigan, Ann Arbor, Mich.

Economist Boulding analyzes how prevalence of small farming units, as against large business and labor units, affect agriculture's relative earnings and ability to adjust to economic change. Observes: (1) agricultural policy constantly tends to become a "charity racket"; (2) subsidies aid poorer farmers least and benefit landowner-farm operator more; (3) agriculture's inability to reduce output during depressions exploits the farmer for rest of society, and (4) paradox in increased agricultural productivity disadvantaging the farmer. Recommends improving farmer's relative position not by reducing agricultural output but by increasing industrial output and preventing depressions.

Agriculture is rightly regarded as the last great area of small business. Even the 100,000 farms which are classified in the census as "large" are tiny compared with even a medium sized manufacturing company, and the three or four million "family farms" are, of course, still smaller. The only other large areas of economic life which compares with agriculture in the average size of the firm are retailing and the service industries, and even here the income per enterprise is three or four times what it is in agriculture.¹

The problem of the relation of the size of the firm to the nature of the market which it faces is one of the most difficult in economics, both theoretically and empirically. We cannot assume off-hand that just because a firm is small there are no elements of monopoly in its market situation. The village barber, the small specialized manufacturing concern may have an effective degree of monopoly. Nor is there a necessary connection between large size and monopoly power; many large corporations are effectively hemmed in by the competition of similar firms, of substitute products, and by the pressures of public opinion and government regulation. Nevertheless, where we have a situation with small firms producing for the most part a standard commodity for a large national market, as we do in commercial agriculture, we can feel confident that the element of monopoly in this situation is practically nil, and that here is one place in the economy where the economists' *beau ideal* of perfect competition is found. One may hesitate to claim with Adam Smith that "Country Gentlemen and farmers are, to their great honor, of all people, the least subject to the wretched spirit of monopoly" (*The Wealth of Nations*, Modern Library Edition, p. 428), but the most jaundiced anti-agrarian cannot deny that of all people, farmers have the least opportunity for monopoly. Indeed, I am aware of only one agricultural product in which there has been any really successful exercise of monopoly power: this is the California lemon, where a relatively small number of growers, concentrated in one area and protected by climate and the tariff have succeeded in organizing themselves sufficiently to exert a true monopolistic control over the output and price of lemons.

In this, however, an occasion for rejoicing, that in the midst of so many who have bowed the knee to the Baal of monopoly there are the faithful remnant who preserve the practice, if not the faith, of competition in its purest form on which our society supposedly rests, or it is an occasion for lamenting the injustice involved to the faithful remnant, who do not, or cannot avail themselves of the monopolis-

tic defenses of the rest of the economy, and who, therefore, merit the special protection and support of government? One wishes there were some nice, simple answers to these questions.

Short-Run Behavior

There are really two distinct problems. One is the short-run problem of the effects of the distribution of monopoly and competition in behavior during the business cycle. The other is the long-run problem of the effects on the broad course of economic progress. Of these two problems the first is the easiest to answer. The record makes it clear that agriculture behaves very differently from manufacturing industry over the course of a business fluctuation, and especially in severe depressions. A depression is characterized by a general decline in money income and in the money value of output. This decline is fairly uniform, industry by industry. That is to say, when the money value of national income about halved, as it did from 1929 to 1932, the money income of each major industry likewise approximately halves. The money income of an industry however is the money value of its annual product, and this in turn is equal to the quantity of product multiplied by its price. If wheat farmers for instance produce 500 million bushels of wheat in a year, and sell it at an average price of \$2.00 per bushel, the value of their product, and therefore their gross money income, is \$1,000 million dollars.

In agriculture a decline in money income is brought about almost wholly by a decline in the prices of agricultural produce. In manufacturing industry by contrast much of the decline in money income is brought about by a decline in employment and output, while prices stay up or decline much less. There is no doubt that the reason for this difference lies in the different market structures: in agricultural markets unsalable stocks of goods produce an almost immediate downward pressure on the price. In the markets for industrial goods unsalable stocks of goods produce not so much a fall in the price as a cutback in output and employment. These different market structures are again related to the size of the firm in proportion to the total output of its product: if an individual wheat farmer reduces his output this will have no perceptible effect on the price of wheat; if a manufacturer of some specialized and brand-named article cuts back his output, he can maintain his price without difficulty in the face of falling money demand.

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¹ Income per enterprise (1950 census) was \$2,521 in agriculture, \$7,846 in retail trade, and \$8,408 in service industries. The disparity would be much less, of course, if subsistence agriculture were excluded. By comparison, income per enterprise was \$49,179 in mining and quarrying, and \$83,149 in manufacturing. (See Ronald H. Mighell, *American Agriculture*, p. 47.)

*A statement by Dr. Boulding before the Subcommittee on Agricultural Policy, Joint Economic Committee, Washington, D. C.

Television and Big Business

By ROBERT C. TAIT*

President, Stromberg-Carlson Company
A Division of General Dynamics Corporation

In recounting withdrawal from TV production, Stromberg-Carlson head relates this to natural advantages of big business and realization that problem of TV is not manufacturing but distribution. Mr. Tait predicts survivors in TV field will be those with full line of white goods and appliances who can control distribution right down through the dealers. Poses problem of large firm's selective investment of funds for research with greatest potentialities for earnings, and limited choice and limited funds in many small businesses.

Someone once wrote a tract on the subject "Bigness Is Badness Is Bunk," but I have been unable to run it down. The title still sticks in my mind, however, because the truth of that title is daily becoming more evident.

One of the best defenses of big business that I have ever seen was the series of articles written in 1952 for *Collier's Magazine* (now defunct, and incidentally a pretty good illustration of the mortality of even large financially strong companies in today's business world). These articles were written by David Lilienthal, the one-time head of the Atomic Energy Commission and a New Dealer—which makes Lilienthal's conclusions all the more powerful, because you will all recall how the New Dealers used to shoot continually at big business. As a matter of fact, it still seems to be politically the order of the day to attack big business, or even business itself, as though business has some unholy or unsavory taint that distinguishes it from agriculture or the professions. Actually, as nearly everyone must realize by now, we simply couldn't have our present economy in our free enterprise system without business—and, in fact, without big business.

Mr. Lilienthal points out in that series of articles the absolute requirement of bigness in some of our major industries such as steel, where U. S. Steel spokesmen have said, "Size is our greatest single functional asset." The oil industry could not possibly create the gasoline for our cars and planes, let alone the fuel oil and all the other myriad petroleum products in anything but huge refineries. In fact, only great, financially strong oil companies can afford to explore the world for new oil resources at anything like the pace we do, and in so doing, incidentally keep on increasing our total oil and gas reserves despite our fantastic annual consumption of oil.

The chemical industry is another where huge quantity production is a requirement in order to achieve low prices. We couldn't have cellophane, nylon, film for our cameras, all of the many styrene and polyethylene plastics without large-scale production.

Even in agriculture our giant farms and power machinery are the main reasons why we can produce more food than we need for an ever increasing total population, with a steadily decreasing farm population.

Even a mature and relatively declining industry such as the railroads is finding bigness more and more necessary to combat the increasing competition from other means of transportation, to the point where, as you know, the two biggest, the Pennsylvania and

New York Central, are now talking about merging. This may take years of hearings and negotiations but I believe it will ultimately come off because the economies that can be effected by both are so great.

It is commonplace to mention our automobile companies as the prime example of bigness in business, and of course everyone knows we couldn't have the cars we have at the prices we pay except through mass production. As for competition (about which I will have more to discuss) there are few industries in the country as highly competitive as the automotive. You have got to be big in this business to stay alive at all.

Explains Withdrawal From TV

Which leads me to digress a moment to recount our own experience in the television business and our decision to get out. The general public probably thinks this was the decision of General Dynamics following our merger with them at the end of June, 1955. Actually, our plans with respect to this were all revealed to General Dynamics in our first conversation on the subject of possible merger. Reasons for our withdrawal from the television field were written out, after a lot of blood, sweat and tears, in August, 1952, but it took us 4½ years to accomplish this at a time when we could do it with increased rather than decreased earnings and employment. We had to reverse our field once when we had almost gotten out of the business, because we couldn't quite see our way out to complete the job at that earlier date. We finally got out of the TV business the winter and early spring of 1956.

You might be interested in part of the reasoning behind this decision, because it has a bearing on this whole question of bigness. It seemed clear even in '52 that competition and increased size by merger and natural growth would gradually narrow the field down to a few big producers. The TV business, like so many other consumer products, is a problem in distribution rather than manufacturing. Anybody can hire a few engineers, set up a line to produce radio and TV sets, but it's selling them that takes the real doing—and here size is all important. Actually the long-range survivors in this field are going to be the ones with full lines of white goods and household appliances, who can control their distribution right down through the dealers; and much as Congress dislikes the fact, control of distribution down through the dealers is almost necessary to the success of both the dealer and the manufacturer. The right manufacturer can make the dealer make money, and vice versa. The manufacturer who supplies only 3% or 4% of a dealer's business is entirely at that dealer's mercy. The dealer will buy only the models that turn out to be "hot" and let the manufacturer go to bed with the others. Merchandising being what it is in our highly competitive markets today, almost every new line of products has some so-called "sticky" items and some so-called "hot" numbers. When the manufacturer controls some two-thirds or more of the dealer's business he can pretty much run that dealer's business,

to the profit of both, and in fact both can weather the increasingly tough competition better than they could otherwise.

All of my generation will remember the "Pregnant Cow" Buick model in the middle 30's that was a terrible flop. Also the first bug model DeSoto. These cars just didn't go over in those days, and had they been separate companies rather than divisions of big strong businesses, they would have gone broke.

Get In or Get Out

Thus our decision with respect to the television business was that we had to do one of two things: either get in with both fists and slug it out (by that I mean merge or affiliate with other companies to develop a full line that we could sell and service economically), or get out. It isn't a scrap you can stay in with one arm behind your back.

To get back to Mr. Lilienthal's articles, they also pointed out that we simply couldn't have waged and won either war without our big businesses, particularly World War II. When it came to the Manhattan and other vital projects, who did they ask for help? Du Pont (although a few years later they evidenced their gratitude by hauling them into court for being too big); Union Carbide, A. T. & T., with its Western Electric and Bell Labs (also since hauled in by the Justice Department). Only such companies were big enough to organize and direct the vast projects that were required for us to win the war.

It would be a good idea for some of our Congressional inquiries to investigate the beneficial results of big business as well as the potential or actual dangers or abuses. It has been well established by many studies that bigness is the natural result of our competitive society. In fact, competition is the biggest reason for bigness, and it has also been well established that competition almost always increases rather than decreases as a result of bigness. Of course, each industry must be examined separately because the factors are different, but I am speaking of the great majority of industries. By and large, big industry has increased rather than decreased competition. To be better able to compete in the market is the primary reason for most mergers. I for one think that the Bethlehem-Youngstown merger makes sense, and that it will ultimately be permitted, because I think they can prove to the Justice Department that they complement one another

with different products in different markets to the extent that they can more effectively compete with U. S. Steel and some of the other highly specialized steel companies as a combined company than they can separately.

The A & P story is one with which you are all familiar. The Giant Killers really bit off something when they went after the A & P, because the essence of the complaint was that they were so big they could undersell the little grocers. This proved bad politically. It hit every housewife who buys groceries for the family right where it hurt most—in the pocket-book. Actually A & P is doing an ever smaller proportion of the total business as they continue to get bigger. In 1933 A & P did 11½% of the nation's total retail food business; it is now doing about 5%.

Our nation is spending something like \$6 billion a year in research. It is estimated that in another 10 years it will be spending \$9 billion annually. This is the lifeblood of our progress, through development of new products and processes. Big business provides the bulk of this. I have already mentioned some of the products that wouldn't exist except for big business. Another factor that should have been mentioned alongside of that is the time and money necessary to launch a new product. This seems to me always to be like the cliché about going to Honolulu: "Take half as many clothes and twice as much money as you think you are going to need." In the development and successful marketing of a new product the thing just won't get off the ground as soon as you think, and it will surely take twice as much money as your first estimate. The period of gestation is elephantine. It sometimes takes five, six, seven years of losses before you turn the corner and get a new product in the black. I understand it took seven years in the case of nylon. Who but a big company could stand this? In fact, most big manufacturers continually have a few items that are working themselves out of the red. This is to insure an increased market in the future. Big businesses will absorb heavy losses if they can see profits somewhere down the road.

Another factor that should be mentioned here before I get through, and that I think accounts to a large extent for the earning power of some of our big businesses, despite fierce competition, is the selective application of

funds. By that I mean there are always capital requirements, research and development requirements, in a growing and dynamic industry, that run way beyond what you can actually get your hands on—so what happens? All divisions present their appropriation requests, and in the case of our company they are considered by two boards, first the Board of Management and then the official Board of Directors. These boards resolve the problem of having more requests for money than there is money available, by quite naturally approving the appropriations in order of their estimated effect on earnings. Priority is going to be given those projects or capital investments that give promise of the largest return on the investment, and those with the smallest promise or prospect of the smallest or most distant net return on investment are rejected. This selective investment of funds is bound to improve over-all earnings as against the limited choice and limited funds in many small businesses.

By all this argument in favor of bigness I do not mean to imply that we should not have small business, or that small business is not good in itself; nor that we should not guard against the possible abuses of big businesses. As a matter of fact, big businesses come from small ones. Despite all the hysterical talk about mergers, most big businesses have grown big from within rather than arrived there via the merger route. Only a relatively small portion of the total growth of American industry has come from mergers; so I say more power to the small businesses so that they can grow big. But let's recognize that bigness per se is not bad.

Somewhere I read recently that the government is busily subsidizing small business so that it can grow big enough to be attacked for being big.

Dane A. Pearson

Dane Appleton Pearson passed away March 3rd at the age of 87 following a long illness. Prior to his retirement he had for many years been in the investment business in Wall Street.

Joins Clark Staff

(Special to THE FINANCIAL CHRONICLE)

DENVER, Colo. — Marie C. Sexton has joined the staff of Phillip J. Clark, 817 17th Street. Miss Sexton was formerly with Amos C. Sudler & Co.

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*An address by Mr. Tait before Rotary Club of Los Angeles, Feb. 28, 1958.

The Commercial Implications Of Missiles-Satellite-Space Age

By ANDREW G. HALEY*

Haley, Wollenberg & Kenahan, Washington, D. C.
President, International Astronautical Federation General
Counsel, American Rocket Society

Expectation that the missile industry will become the largest industry, in terms of employment, in the next decade, cutting across established industrial lines and involving about every scientific and engineering field, is foreseen by Mr. Haley in depicting immediate (next 25 years) industrial and other benefits resulting from technology of space flight. The author provides a quick rundown of over 20 companies to indicate extent to which missiles have permeated our industrial complex today, and notes that by 1960 over 50% of entire aviation industry production will be devoted to missiles, satellites and space flight projects. Sees in this development a greater contribution to higher living standards than any other single economic or social measure.

When Columbus sailed from Spain nearly 500 years ago he was seeking a short-cut to the Indies. His mission failed but his expedition was held justified by his Spanish masters because it led to the discovery of Inca and Aztec gold. But even this wholly unforeseen dividend was minuscule compared to his discovery of the American continent. Yet in Columbus' time, and for some 200 years after, the supreme importance of his explorations was greatly undervalued. There is a lesson in this for us today who stand on the threshold of explorations that seem breathtaking and almost, but not quite, beyond human achievement.

Many inventions or discoveries have seemed unimpressive and insignificant at the time of their disclosure because they had no practicable application. The vision of society has frequently been inadequate to appreciate the consequences of great developments. Most innovations are not absolute, within themselves, but must be appraised in the context of the times in which they were created. In this general observation of human fallibility, the prospect of space flight so far offers no exception.

But it is not realistic for us today, either in a meeting room or in the bureaucratic offices of Washington or in our factories throughout the country, to sit back and wait for the utility of space flight to be "proved." This cannot be done without the benefit of knowledge to be gained by space explorations. Development has to start somewhere and an initial "down payment" must be made. Moreover, space flight, in all its foreseen and unforeseen manifestations, is a long lead development process which will span the activity of generations.

From our position of historical knowledge today we can see that it would have been as futile as impossible for Columbus to have attempted to ascertain the long-range utility of his voyages beyond application to 15th century civilization. This would have been asking too much of the human mind. In that sense, it is futile today to try to ascertain the long-range utility of space flight far beyond our present civilization and its needs. But there are many immediate benefits, more than most of us have im-

agined, holding incalculable promise for mankind's progress.

Brings Nations Together

To begin with, space flight encourages closer ties among nations. Politically, space flight cannot help but make still more apparent the impracticality of war. Indeed, the technical and scientific standards required for coping with the problems of interplanetary operations are so high that if these capabilities were applied with hostile intentions, to the narrow confinements of one planet, the prospect of mutual annihilation would become even more likely than it is already. By no realistic standard of reasoning can space flight have any other effect but that of urging saner alternatives to the classical last resort of international politics.

The economic utility of more extended space operations is not at all obvious in specific or even more general form at the present time. However, the facts are that practical utilities from scientific knowledge are being developed faster in our civilization than ever before. The probability of yet unexpected economic rewards from space flight therefore cannot be discarded.

The practical worthwhileness of operations on the moon, or on our neighboring planets, can be decided only after the necessary facts are known. It is important to gain this knowledge so that appropriate decisions as to future action can be made. The very lack of this knowledge is itself an important fact in undertaking space flight.

There is a final factor common to both short- and long-term aspects of space flight that is not subject to rational justification. This is the undisputable fact that, because of human curiosity and zest for adventure, people simply want to explore this new frontier. It is a fundamental urge, as elemental as the desire for material comfort or bodily security.

Whether one looks at the long-range or at the more immediate potentials and utilities of space flights, one finds the prospect intriguing, breathtaking and the practicable aspects far from imaginary. The interest of the public in the potential of space flight has grown enormously in recent years. This interest may indeed provide the momentum needed to broaden and perpetuate this country's astronautical activities far beyond presently conceived projects.

Benefits may be expected from a space flight program in its immediate aspects, in a number of other categories. There will be industrial benefits, as a result of the new discoveries made both in the development of space vehicles and their equipment, and in their use for scientific purposes. And for the individual, the largest direct benefit will be a sense of participation in a great adventure,

and a new breadth of understanding of the universe around him.

The term "immediate aspects" means a period of about 25 years in which programs will be advanced to the state of practical accomplishment.

We may divide the period ahead into two parts: the first from 1958 through 1970, during which at least three different programs can be put into practical operation; and the second, from 1970 through 1983, during which at least three substantially more advanced programs can be carried forward. Let us examine these two stages.

From 1958 Through 1970

In the first period, between now and 1970, we may expect instrument-carrying satellites weighing up to one ton to be boosted to stations in the 24-hour orbit. These will have indefinite power supply, a long operational life, and can be made recoverable when necessary. We may expect also studies of the moon to be made by encircling satellites carrying instruments. Incidentally the California Institute of Technology's Jet Propulsion Laboratory has made a formal request to the Department of Defense to try to circle the moon with a satellite, possibly using Jupiter-C by adding a fifth-stage rocket thereto. And, in this first period, we may expect to see satellites instrumented to planetary and solar research prowling about the domains of Venus and Mars.

From 1970 Through 1983

The second "immediate" stage will introduce manned space flight. We should be able to develop hypersonic gliders capable of returning to earth with a human crew aboard after being boosted into the regions where Sputnik II and Explorer I are now operating. Next we should anticipate the launching of earth satellites large enough to hold crews of from four to 10 persons. And, finally, we should be able to accomplish what Herman Oberth predicted 35 years ago—explorations by man himself to the moon, first by circumnavigation and then by landing.

To carry out such a program will require a large and versatile engineering and industrial base. Our missile industry has been developing in the past several years and today we can foresee that in the next decade it will become the largest industry, in terms of employment, in the United States.

Impact on Economy

Successful execution of missile, satellite and space flight projects will require a considerable number of diverse and sophisticated scientific and engineering specialties cutting across established industrial lines. Some of these are in the field of aerodynamics, some in the field of propulsion [jet, ram-jet, rocket, nuclear, ionic and photonic], some in high temperature materials, servo mechanisms, gyroscopes, computers, radar, telemetering, high energy fuels, and propellants. It is difficult to think of a single scientific or engineering field that is not, or will not, be involved in the technology of space flight.

Although space age spending will approach the \$5 billion total in 1958, the United States intermediate (IRBM) and intercontinental (ICBM) missile as well as satellite programs are still in experimental stages. It is estimated that intermediate missiles may cost the United States \$7 billion and the intercontinental missile may cost \$10 billion before these are superseded by more advanced second generation missiles. An Atlas ICBM will probably cost about \$2 million once the missile goes into production. A manned satellite probably will require \$3-\$4 billion to develop and as much as \$5 billion to develop a manned

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Automation: Key to a More Productive Economy

By MALCOLM FERGUSON*

President, Bendix Aviation Corporation

Bendix's chief executive explains why, for example, factories, offices, hospitals and bowling alleys are making the broadest use of electronic equipment and systems in order to explore automation from standpoint of a practical businessman and ultimate significance on our economy. Mr. Ferguson sees new opportunities created, including greater employment and businesses almost unknown at present; discusses such problems of automation as need for capital, fears about so-called bad side effects, ability to shift to new work created, and cost adoption considerations by small and large business; and describes exciting developments that have taken place and the indispensable ingredients of progress.

To give automation the sweeping definition it deserves, you can well think of it as a new way of accomplishing more things with fewer people in less time. This is why automation, or automated processes, are just as important to a hospital, or a bank or an insurance company as they are to a guided missile plant or an automobile assembly line. In the factory, the thing that we call automation is an amazing offspring of the combined sciences of mechanics, hydraulics, pneumatics, and electronics. It is capable of so increasing the quality and quantity of production that our advancing standard of living will surely be accelerated by its dynamic force.

Automation has been hailed in some quarters as a "second industrial revolution." Thirty years ago they were saying just that about the development of line methods of production. . . perhaps best typified by the mass-production system that turned out Model-T Fords so efficiently that the cars could then be priced as low as \$290.

Every generation is fascinated with the outstanding technological advances of its own time. This was true of the steam engine, the electric motor, the telegraph, the telephone and the wireless. The automobile, the coming of powered flight, and the harnessing of the electron were certainly revolutionary in their effect in our lives and on our material economy.

Through the whole history of technological advancement runs the constant urge and goal of producing more and more goods and services with fewer and fewer people. And while all this is going on, whole new industries are created which create more and more jobs. Thus the curve of total production, the truest index of the material wealth that we have, keeps on going right through the roof!

In our grandfathers' time, when the farmer plowed with the horse, we had three-quarters of our population on the farms laboring to feed themselves. Then came mechanization of the farm. Agricultural productivity expanded tremendously. But the true significance of this is not that farming became more profitable or less wearying. Its real impact was that it freed mankind from laboring most of the time just to feed himself.

The cycle-time before the original industrial revolution, when man developed the first practical machine power, was of course, the accumulation of all previous his-

tory. Before that time, change in man's technological skill was slow—sometimes so slow as to be imperceptible. For generation after generation, life went on just about the same as before.

Since then, the pace of technological improvement has constantly quickened, rising in a kind of geometric progression as each new advance provided more incentive, opportunity, knowledge, and even capital to explore still further the frontiers of science and technology. This exploration has gone forward at a faster pace not only in industry, but in medicine, the arts, in fact in every field that has enriched our lives.

Age of Automation

Automation is the latest and undoubtedly the most challenging example of this rising pace of advancement.

This quickened pace of change—this self-energizing momentum—is dramatically illustrated in terms of the speed of flight. Back in 1903 the Wright brothers achieved the first powered flight in history. About 40 years later there were airplanes that could fly 400 miles an hour. So you could say that it took 40 years to get from zero to 400. But in the next 15 years, we had manned aircraft that have flown 1600 miles per hour and rockets that go 18 thousand miles an hour! And now science is talking in terms of 25 thousand miles an hour.

This is the evolution of flight; not the revolution.

So with other technological improvements, they are really evolutionary, not revolutionary. The revolution comes in their ultimate effect. The line production methods that Henry Ford applied to making automobiles (supposedly getting the idea from a visit to the Waltham watch factory) produced a car so economical and so practical that it changed the face of America. Without detracting one bit from the contributions of other automotive pioneers, I think we can accept the idea that Henry Ford put the nation on wheels with his mass-produced "Tin Lizzie." Now, aside from the massive automobile industry, the economic effects of all this are staggering. If you were to subtract the automobile from the American economy you could start by cutting back every one of our cities and suburban areas to what was, back in 1900, the "end of the trolley line." When you think of the tremendous segment of the American economy that would not exist at all except for the fact that the whole country is on wheels, the very far-reaching effects of this technological change are obvious.

Looking ahead we have, in automation, the means to a new plateau of productivity and a new era of industrial progress. It is not only a way of doing things faster, better and easier than we ever did them before but, in many cases, of accomplishing tasks that previously we couldn't do at all.

*An address by Mr. Haley before the American Management Association, New York City, Feb. 21, 1958.

*An address by Mr. Ferguson before the Congress on Administration, American College of Hospital Administrators, Chicago, Feb. 10, 1958.

Modern communication is certainly a case in point. A prominent corporation in the electronics field reports, for instance, that about 80 per cent of its volume is in fields that either did not exist at all or were not commercially developed 10 years ago. When you see automation in this light, I think you will agree that it is not a bolt of lightning that will transform us in a flash, but part of a pattern of change whose probable ultimate effects stagger the imagination.

These are some of the broader aspects of automation. But just how do you know automation when you see it?

To some persons whose interest is concentrated mainly on the metal-fabricating industries, automation means simply the use of automatic transfer machines and equipment for moving work pieces from one machine tool to the next.

At the opposite extreme are those who regard automation as a completely new approach not only to industrial processes but to problems of human organization in general.

Finally, some popular writers use automation as a catchword which they apply indiscriminately to most all forms of technological innovation.

So, we have in automation a new word that is not yet used with very much consistency; but the more serious students of the subject have refined its definition, and they see it as covering three different types of very progressive manufacturing.

Automation is Three Things

The first is the use of new and more complicated machine tools which perform as one operation, processes that had previously been performed as a long series of separate operations by separate machine tools, each individually operated.

Another type of innovation usually described as "automation" is the use of automatic "feedback" devices, or "servomechanisms" that observe the work that a machine—or, indeed, a whole factory—is doing and act upon those observations in automatically adjusting the operation so it will not vary from pre-set specifications.

A third type of change often discussed under the heading of automation is the use of electronic devices in administration and engineering to record, store, process, summarize and interpret information.

Automation, therefore, is not one thing but three or more separate things.

We have had automatic machinery replacing hand labor, increasingly, for centuries. Now we have automatic controls more and more replacing human controls in the supervision and direction of these automatic machines. This suggests another definition for automation. It's the automatic control of automatic machinery.

Control units that have a "sensing unit" for monitoring a process and an "activation unit" for controlling a process or making necessary corrections are not new in principle. The primitive centrifugal-weights "governor" James Watt invented in 1788 to keep his steam engine from running too fast was exactly that! But developments in electronics, with a time response of a millionth of a second, including new components such as transistors (that involve a new specialty that we call "solid state physics") and printed circuits have greatly increased the dependability and the versatility of these systems. It is already apparent that electronics is one of the great factors in the future of automation so much so that the art might well be called electromation.

Electronics is the science that deals with the electron, the smallest particle found in nature. About 30 thousand trillion electrons

(that's the figure 30 followed by 27 zeros) weigh less than an ounce. Electronic energy, as in a radio wave, for example, moves at the speed of light. Because you can amplify, code, broadcast, compare and do dozens of other things with different cycles or pulses of electronic energy, you have a practical means of supplementing man's senses and brain power.

Electronics can hear, see, smell, touch and taste. Regarding the first two of these human senses, the electronic mechanism not only can hear and see for us—as in radio and television—but can play it back so our own senses can have the sensation recreated. Of course, in the case of smelling and tasting we have not yet reached the point where electronics can play it back and reproduce a smell or a taste for human en-

joyment, but electronic machinery has been developed that can accurately and efficiently sense the things that are causing a smell or a taste, and take action appropriate to the desired industrial process.

Electronics might be said to date as a practical science from Dr. Lee De Forest's invention of the vacuum tube in 1906. The vacuum tube first revolutionized the communications industry, as you know. Then, electronics was given tremendous impetus by aviation which today, for all practical purposes, would be absolutely grounded without electronic equipment. Here I am thinking not only of aircraft communications, instrument flight control, radar and some of the more dramatic electronic systems, but of other aviation uses of elec-

tronics that more nearly parallel the kind of things that go on when you apply electronics to a factory or office.

Electronic Aviation Systems

For instance, the advent of multi-engine aircraft produced a very fundamental design problem. You've got four engines out there on the wings. In order to stay in the air very long, the pilot must know in his cockpit a lot of basic information about what's going on with those engines—such things as RPM, temperature, oil pressure, manifold pressure, propeller pitch, and so forth.

One way to relay this information to the cockpit would be to install a system of cables, plumbing and other gear to activate indicators on the pilot's instrument panel. Since this was impractical,

an answer to the problem was found via electronics.

Let's take a sensing device on a particular engine—a valve that turns as oil flows to the engine—and connect it to a tiny, precision-built, nonrotating electric motor called an autosyn or synchro. The autosyn becomes an electrical position indicator and when it is connected by means of a fine wire to a similar unit in the cockpit, the second autosyn will very accurately assume the same position as the first. Then you electronically amplify the faint electrical current that causes these two synchros to duplicate each other's position and you have enough energy to actuate an instrument panel indicator, which presents the

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Another Record Year at



It is a pleasure to tell you that in 1957 American Machine & Foundry Company again established new records.

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Carter L. Burgess was elected President of AMF at the Board of Directors' meeting held February 4, 1958. His wide and varied experience in business and in the service of the Government will be of great value in matters of policy and administration.

I am entirely confident that AMF will continue to expand, to the benefit of its employees, customers and stockholders.

CHAIRMAN OF THE BOARD AND
CHIEF EXECUTIVE OFFICER

We will be pleased to send you a copy of the 1957 Annual Report

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- atomic reactors and related nuclear equipment

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Feasibility of Atomic Power Plants—Here and Abroad

By ROBERT A. GILBERT*

President, Intercontinental Research & Analysis Co., N. Y. City

On the basis of an on-the-spot study abroad, Mr. Gilbert concludes that though atomic power electric generating plants are economically feasible abroad we should not let our fascination with new techniques becloud their undesirability here. Calls attention to cost differences per kilowatt hour generated and for fuel costs for conventional plants, and operating results of socialistic European electric systems with ours. Warns we will generate wasteful inflation instead of electricity if we use tax revenue for atomic power plants here or subsidize such plans for export.

Last summer I went abroad, jointly with Dr. Alexander Sachs, the father of atomic work in the U. S., according to "Who's Who,"



Robert Gilbert

to do a study on the feasibility of American investment in those European companies likely to benefit from the accelerated English atomic program. I would like to emphasize that a study from this standpoint has to stand very acid tests because private investors cannot take vague chances with their funds—cannot make up the losses of mistakes from the unlimited reserves of tax receipts. The conclusion of my company's report was that the very factors that make atomic power plants for electric generation abroad economically desirable, make these same plants extremely academic in importance and undesirable here.

Electric generation does not take place in a vacuum. It has to be related to more than the techniques of turning the dynamos. It seems to me we in America are fascinated with a new technique which lends itself readily to popular interest in its magic ways, but that this is no more the attitude which the true patriotic steward of progress should take toward atomic power than it would be to spend the taxpayers' money on fireworks on Capitol Hill every day of the year.

Vast Cost Differences

Many of the public discussions of the so-called lag in our pro-

*A statement by Mr. Gilbert before Joint Committee on Atomic Energy of the Congress of the United States, Washington, D. C., March 9, 1958.

gram, compared with that of the British, seem to bear upon every factor but the main one, which is the vast difference in fuel costs for conventional plants here and abroad. I call your attention to the table below which shows the trends of prices per ton of coal used in the generation of electricity here and in the U. K. since 1950.

Year—	U. S.	U. K.
1950.....	\$6.38	\$7.11
1951.....	6.42	7.87
1952.....	6.54	8.26
1953.....	6.52	8.77
1954.....	6.25	9.05
1955.....	6.01	10.00
1956.....	6.29	10.86

I would like to point out that in 1956, the last year for which final figures are available, coal costs in the U. K. were about 72% above those in the U. S. Large as is this difference, it is not the final percentage to consider, because the trend of coal costs is also extremely important. Electric plants represent large capital investments which must operate 15 to 40 years to recover their capital, so one has to calculate his future as well as present expenses. Therefore, we must note coal costs in the U. K. have risen each and every year since 1950, advancing under socialized mining fully 52%, whereas our prices in 1956 were slightly below 1950's.

In mid-year 1957 coal prices in the U. K. were raised again, by about 7.5%, and there is now talk of another increase on some grades of coal this spring. Coal prices on the Continent have also increased greatly. I make an attempt in my business to follow the status of competitive fuels abroad so I am somewhat familiar with this situation.

Wage inflation of coal prices in the U. K. may slow up, but it is unlikely to stop, while the cost of absenteeism offsets some of the benefits of mechanization. Thus over the years, coal costs may edge up abroad, although perhaps not at the steep pace of the recent past.

To reduce these differences in coal costs to costs per kilowatt-hour generated, I cite the following table which gives figures in mills per kwh.

Coal Plant	British	American
Fuel.....	4.30	2.60
Operations.....	0.57	0.47
Capital charges.....	1.38	3.16
Load factor.....	6.25	6.23
	60-80%	60-80%

We have cheaper electricity because ours includes a tax payment to the government, whereas British electricity is socialized.

Turning now to atomic power, we find the following estimates for a British atomic plant:

Capital charges & depreciation.....	.4336
Interest on fuel.....	.066
Fuel replacement.....	.288
Operations & maintenance.....	.066
Less plutonium credit.....	.8546
Net cost.....	.085

The plutonium credit is figured at its present value, but the trend in the price of plutonium is decidedly downward.

This net cost is above those of

conventional plants in both nations and it is only justified abroad by the trend of fuel costs and the hope that later developments will reduce operating expenses. It has been estimated by one authority that capital cost might decline 20% and fuel costs 45% by 1970, giving a cost per k.w.h. below 5 mills, but of course we can now build coal plants in the U. S. to deliver electricity at less than 3.8 mills.

We in America surely do not wish to generate inflation instead of electricity, but this is exactly what this committee will be doing if it commits the taxpayer to the use of his money for uneconomic power plants here or subsidies for such plants exported abroad. Money is needed in hard times for less wasteful projects more likely to raise the standard of living in real terms in the final audit of account.

European Systems Held Inferior

In making my study I could not help but notice the great discrepancies between the operating results of the European electric systems, which are mostly socialized, and ours. I bring out this point because there is a danger that we may indulge in a socialized electric industry here due to the discovery of the new form of energy. The capacity of our enterprising nation to generate electricity is now greater than that of the next seven great countries of the world. In 1950-56 Europe's industrial production grew 45%, with an increase in electric generation of 63%, while the U. S. production gained 27%, with an increase in electric generation of 82%.

The lower growth of electric generation abroad is undoubtedly due to the unimaginative inefficiency of the socialistic managers of the power plants. In 1956 Europe had 104,200 k.w. of installed capacity, while we had a capability of 126,500,000 k.w., yet Europe generated 388 billion k.w.h. compared to our 600 billion k.w.h. The pink power plants had a utilization of only 42.9% of capability in contrast to ours of 54.5%. The Socialists tend to build smaller power plants, operate them at lower temperatures and pressures, and to use lower voltages on transmission. Also they take longer to build a plant and spend much more per k.w., even though equipment costs less than ours. In 1956 European thermal plants used 1.51 lbs. of coal per k.w.h., compared to the average of .935 lbs. in the U. S.

Questions Uranium Inventory Accounting

In appearing before you, I would like to comment upon another aspect of the atomic program, mentioned as item No. 1 on your sheet "Topics for Discussion." Over the years the government has acquired large inventories of uranium in various forms from ore to metal. Contrary to the practices of private business, these inventories have been written off as acquired instead of being carried at the lower of cost or market. There are now enough quotations for uranium in all forms to give it a market value. The sums invested in this stockpile should be valued as a business values its inventories, annually, and the funds so disclosed—previously lost in expenses, restored to the budget for a needed tax cut or other worthy purposes. This is only sound practice, for property written off is less likely to be treated carefully than that which must be accounted for each year. Furthermore, this inventory is to be increasingly disposed of in the next decade as uranium-burning plants arise all over the world, and the taxpayer has a right to know where he stands on potential receipts.

THE MARKET . . . AND YOU

By WALLACE STREETE

A combination of short-covering and positive indications that Washington will do all possible to shore up the economy if it doesn't turn up of its own accord soon gave the stock market a better tone this week.

It was still mostly a good show of strength by industrial issues, and their average, despite the continued flow of sad business news, was able to flirt with its best posting so far this year.

The story of the rails wasn't quite as cheerful, particularly since the industry estimates of future business have been highly conservative in the absence of clearcut indications that the worst of the recession was over.

Utilities offered little in the way of features but their average was able to work quietly back to levels not seen since early last summer.

Technical Aspects Bullish

If the story the market was telling was on target, the turn is nearby since not only have the three major indices clung stubbornly to plus territory all year so far but also have avoided by a good margin anything approaching a test of the October lows. The market was on the brink of the season when selling of securities to raise cash for income tax payments is normal. But this year the feeling persisted that the cash had been raised in earlier selling drives and that there would be little to be absorbed this time.

It was also a fact that scores of selected favorites were at, or close to, all-time peaks or the best prices seen in many years, including some of the foods, camera issues and drug shares. This is sterling action against the dreary background of corporate news. And, despite the gains made by the favored items, market opinion was that many of them still had room on the topside when measured against the traditional norms of price-times-earnings, etc.

Cigaret sales were not only holding up well but indications are that the gains would carry right down to the end of the year. Consumer spending was also holding at a high level, not seriously affected by recession fears. So retailing issues continued, at least in spots, to show anything but a backward economy. J. C. Penney, for instance, reported record sales and profits last year and company officials

hint broadly that this year, as in 1949 and 1954, they won't even realize there are trouble spots elsewhere in the economy.

Aircrafts had a mundane market existence lately although here, too, the chances favor by long odds that continued high-level business will be the pattern for some time to come. The trouble was that the complicated subcontracting that goes on in missile work made it a bit difficult to select the single company that was going to show the best results.

Spotty Aircrafts

In the aircraft field United Aircraft was a promising item because of its laboratory work and announced intention of becoming an important factor in missile work. United is not an airframe maker with the exception of helicopters in which it is an important factor. Instead, it has concentrated on aircraft parts, including engines, and in servicing operations and supplies for such work.

United sired some of the better-known names in the aviation field, including Boeing and United Air Lines, and its latest spinoff was Chance Vought. For the last four years its sales, income, and dividends have increased steadily but despite the dominant position it has in the field the stock recently sold at nearly a 5½% yield and some two dozen points under the 1956 peak.

In the engineering-construction field, Stone & Webster put on an impressive showing last year but so far has been noted marketwise only for quiet strength. A good bit of work for electric utility and oil industries, which are lines that can't afford to slide backward, is the mainstay of this company. It is also a company with superior know-how in the applications of nuclear energy to power generation. It is a leading candidate for thoroughly satisfactory operations for this year with many completions of current projects scheduled in the months ahead.

A Humming Diversifier

Otis Elevator is one of the companies being projected to better earnings in 1958, a prediction underscored by the company's explanation that an order for 10,000 bowling alley pinsetters received last December was not included in 1957 results but will be worked into current accounts as the machines are billed

Advertising is one of the most useful tools in securing new customers. So it's smart to place your advertisement in

THE COMMERCIAL AND FINANCIAL CHRONICLE
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over a year or more. The machines are made by Otis for Brunswick-Balke, adding new glamor to an old-line quality issue. The regular work has been holding around record levels with indications that the industrial truck division is about to turn the corner and show up in black ink for the first time.

Some High Yields

While most utilities are usually slow-moving and "defensive" and, lately have gotten their swings from the money market, American Water Works is one where certain intangibles could cause a radical change. The stock naturally has been rather dowdy in the face of the trend toward municipal water plants but is still the largest corporation-owned group of water supply properties. The company's rate of return on capital has been subnormal and applications for rate increases are in process. There is high leverage in the issue and, as one estimate puts it, a jump in return on capital from around 4½% to 6% could triple earnings. Even on the current dividend, the return is close to 6% and the stock has been selling below the depreciated book value. So the issue is far from being overvalued in today's markets.

An issue that also offers close to 6% with a potential of doing well under the high level of consumer spending is Whirlpool Corp. which is a leader in the field of household laundry equipment and looms large in refrigeration equipment. Moreover, it is an important supplier of Sears, Roebuck which accounts for more than half of its total output. Sears, incidentally, owns some 17% of the Whirlpool shares, and Radio, Corp. another 19%, which reduces the "float" in the stock appreciably. The stock lately, due to the general market easiness, has been available at almost 10 points under last year's peak and a score under its high for the last two years, which makes it something of a thoroughly depressed item.

[The views expressed in this article do not necessarily at any time coincide with those of the "Chronicle." They are presented as those of the author only.]

With Cruttenden, Podesta

MUSKEGON, Mich. — Bernard F. Wendt has been appointed registered representative in the Muskegon area for the investment firm of Cruttenden, Podesta & Co., Leon M. Kelhofer, branch manager at Grand Rapids, has announced.

Mr. Wendt has been associated with Investors Diversified Services, Inc. for nine years and with Paine, Webber, Jackson & Curtis for two years. More recently, he was with B. Ray Robbins of New York City before joining Cruttenden, Podesta in Muskegon.

Halsey, Stuart Group Sells Columbia Gas 4⅓% Debentures

Public offering of \$30,000,000 Columbia Gas System, Inc. 4⅓% debentures due March 1, 1983, was made on March 7 by an underwriting group managed by Halsey, Stuart & Co. Inc. at 99.623% and accrued interest, to yield 4.40%. The group was the high bidder for the issue at competitive sale on March 6, specifying a price of 98.8199%. Subscription books were quickly closed.

Net proceeds from debentures will be added to general funds and, together with other funds, will be used for corporate purposes, including construction. Subsidiaries of the corporation

have scheduled a construction program which it is estimated will require cash expenditures in 1958 of approximately \$89,000,000.

A sinking fund provided for the debentures will retire approximately 70% of the issue prior to maturity through annual payments of \$910,000 beginning in 1960. For the sinking fund the debentures will be redeemable at 100%. They also will be redeemable at any time at the option of the company at prices ranging from 104% to 100%.

Columbia Gas is an interconnected natural gas system composed of the company, operating subsidiaries and a subsidiary service company. Retail natural gas operations are conducted in Ohio, Pennsylvania, West Virginia, Kentucky, New York, Maryland and Virginia. In addition, Columbia Gas engages in whole-

sale operations, selling natural gas to non-affiliated public utility companies for resale to their customers.

Consolidated gross revenues in 1957 were \$376,075,000 and net income was \$30,453,000. For 1957 the ratio of earnings to fixed charges was 4.99.

Phila. Inv. Women to Hear

PHILADELPHIA, Pa. — The third Dinner Meeting of the Investment Women's Club of Philadelphia will be held on Monday, March 17th, at 6:15 p.m. at the Barclay. Mrs. Pauline Bendiner, a representative for Harmer Laboratories, will be guest speaker. Mrs. Bendiner's subject will be "How Cosmetics Are Made for New Clients and Why!"

Chicago Analysts to Meet

CHICAGO, Ill. — The Investment Analysts Society of Chicago at their regular luncheon meeting to be held March 13 will vote on a new article to the Constitution of the Society providing for the establishment of the Milwaukee group as a new "Milwaukee Chapter" which will include all non-resident members residing in Milwaukee and elsewhere in the State of Wisconsin.

The speaker at the luncheon meeting, to be held in the Adams Room of the Midland Hotel, will be Glen B. Miller of Allied Chemical & Dye Corporation.

Timothy F. Dempsey

Timothy F. Dempsey, one of the founders of Dempsey-Tegeler & Company, St. Louis, passed away on Feb. 25th.

Beneficial Reports for 1957

Beneficial
Finance
SYSTEM

- more money loaned to families than ever before
- total assets exceed \$500,000,000
- annual earnings at new high

The year 1957 was a good year for Beneficial with net Instalment Notes Receivable up \$50 million to a new high total of \$492 million at the year-end. Earnings exceeded \$20 million and assets passed the half-billion-dollar mark.

The Beneficial Finance System through 1,089 offices, the largest system of its kind in the world, makes small loans generally to families to help through temporary financial emergencies with instalment repayments to come from future wages or salaries. Volume of loans in 1957 exceeded three-quarters of a billion dollars.

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for a beneficial purpose.

HIGHLIGHTS	1957	1956
Net Income	\$ 20,152,232	\$ 18,685,686
Net Income per Common Share (adjusted to present capitalization)	\$1.91	\$1.76
*Cash Dividends per Common Share	\$1.00	\$1.00
Total Assets	\$511,768,524	\$462,492,129
Amount of Loans Made	\$754,673,124	\$739,041,925
Number of Offices	1,089	1,023
Instalment Notes Receivable (after deducting Unearned Discount)	\$492,742,936	\$442,283,634

*Cash dividends actually paid on the Common Stock were \$1.00 per share for 1957 and 1956. Adjusted to present capitalization, such per share amounts were equal to \$.95 and \$.85, respectively.

The information contained herein should be read in conjunction with the financial statements and notes appearing in the 1957 Annual Report to Stockholders. A COPY OF THE REPORT WILL BE FURNISHED UPON REQUEST.

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Outlook for Electronics

By ROBERT S. BELL*

President, Packard-Bell Electronics Corporation
Los Angeles, California

Electronics head assesses 1958 prospects for military, industrial, component and consumer segments of the electronics industry and anticipates 8 to 10% overall sales increase, fairly well distributed with an edge to military equipment. Mr. Bell, for example, notes forecast that TV is actually due for an excellent year, and expects commercial electronic sales—now running a close second—to surpass entertainment field by 10% this year. Explains why small firms can easily compete with large ones and calls attention to advantages Southern California has for electronic development.

I once looked with envy upon my young son, because he might conceivably live to see man fly to the moon. Now I'm not so sure that we couldn't take the trip together—if one of us weren't a coward.

Although I don't expect man, or even a Russian dog, to reach the moon in 1958, I do expect the newborn Space Age to grow into a sturdy child during the year. And as it grows, so will grow the electronics industry of Southern California.

In less than 20 years electronics has moved from 49th place in the business world to fifth place, as the employer of more than 1,750,000 people (2.7% of the total working population), topped only by automobiles, steel, aircraft and chemicals. Last year, according to Brigadier General Ben I. Funk, Deputy Director for Ballistic Missiles, USAF, Southern California had the third largest concentration of electronics manufacturers in the country. More than 500 firms in the metropolitan Los Angeles area were engaged in the manufacture of electronic equipment, materials and components. These firms employed close to 100,000 people and accounted for an annual volume of business exceeding \$1 billion.

The electronics industry really began, in terms of its first important contribution, in communications. Radio became a commercial reality and success in the Twenties. Twenty years later TV added to this success. Just as TV was beginning, World War II began and for the first time electronics became important to the military with widespread use of radar, aircraft instrumentation and control, and the beginning of fire control systems.

Growth After World War

The great period of growth in the West, however, began after World War II and was largely in the design, development and production of complex weapons and control systems associated with military work, largely in the field of airborne equipment.

The electronics industry now involves at least four major fields—consumer products, military equipment, industrial electronic items and components. This last category actually serves the first three fields.

To review 1957 briefly: 1957 was a record breaking year for electronics as a whole. Factory sales rose from \$5.9 to \$7 billion. Military items led the increase in 1957, rising from \$2.7 billion to \$3.5 billion.

Industrial uses for electronic gear continued to increase in 1957 when sales jumped from \$950 million to almost \$1.1 billion. Sizable growth in this area in

*An address by Mr. Bell at the Tenth Annual Business Outlook Conference sponsored by Los Angeles Chamber of Commerce.



Robert S. Bell

1958 is indicated as businessmen battle the higher cost of doing business. Electronics has much to offer in this struggle.

Component sales were up about 5% to \$900 million with increased replacement tube sales and the increase in transistor sales. Only the consumer products field declined this past year due to the shrinking of TV sales. Let's consider these four fields separately:

1. Consumer Products

Fundamentally consists of radio, hi-fi and TV, and accounts for 21% of total electronic industry sales. TV retail sales declined 4% in 1957, although manufacturers' sales declined 12%, indicating a decrease in pipeline inventories. Total manufacturer 1957 sales will be in the nature of 6 million sets with retail sales about 6.5 million units.

The TV business has been in the painful process of shaking out the marginal producers and has lost some 22 manufacturers in the last 18 months. With only a minor exception or two, I believe that those now in it will continue. It has become a somewhat more stable business this year and perhaps that means more horse sense will be used by the people in it.

The Electronic Industries Association is forecasting sales at retail in 1958 of 7 million TV receivers, a very healthy increase in business. These forecasts have in the past been amazingly accurate and, therefore, it appears that TV is actually due for an excellent year. With the payoff of debt from the 1955 spending spree on autos and appliances accruing in ever larger increments in 1958, there is good reason to believe that 1958 will see a resurgence of sales in consumer durables which have suffered declining sales for the last two years. Color TV has been disappointing to date, but the fourth quarter of 1958 might see a good boost in such sales if programming is improved both in quantity and quality.

Radio set output continued last year at near record output, some 9% above 1956. Factory production rose from 13.9 to 15.3 million units in 1957. This appears to be a trend which I anticipate will continue during 1958, although the percentage rate of increase will not be quite as large. It would be reasonable to estimate an increase of a half million more units in 1958.

The wave of continually rising interest in hi-fidelity has been tremendous this past year and, as yet, the market potential has been barely tapped. We look for increasing unit and dollar sales in hi-fi in 1958.

II. Components

Components account for 13% of total industry sales. This part of our industry is devoted almost solely toward serving the other three segments with the basic building blocks of electronics—tubes of all types, resistors, condensers and transistors. Replacement of receiver and cathode ray tubes in radios, TV and hi-fi continues at an increasing rate.

Transistor sales approximately doubled this past year to reach

\$70 million and it is indicated that sales will exceed \$100 million during 1958. Total component sales for 1957 were \$900 million. I expect this to increase by at least \$50 million to \$950 million or more during 1958.

III. Commercial Electronics

This category accounted for 16% of total electronic sales in 1957 and is a constantly growing area which includes products ranging from industrial TV to automation control equipment. As a field it has been overshadowed by both military and home products, but actually it offers the greatest potential increase in sales, both long- and short-range, of the four fields. It is now running a close second, with sales over \$1.1 billion, to the entertainment field and within the next few years may well surpass it as its sales should increase by 10% in 1958.

A recent significant long-range development in this area was the decision of the American Automobile Association to campaign aggressively for electronic controls on both vehicles and the new highways under construction and projected. Successful experiments already have shown that electronic safety devices can greatly curtail automobile accidents. Eventually, there will be developments using our basic knowhow in the fields of radar and computers which guide automobiles automatically on the highways. Other developments indicate that electronics soon will be used to coordinate and control traffic from a central point.

Future for Closed-Circuit TV

Closed-circuit television made rapid advances in 1957, both in educational and industrial uses, and made its debut as an entertainment medium in the home. While the future of the latter is problematical, there seems little doubt that wired TV is proving a valuable tool in the classroom and in many industrial processes.

Automation, which almost invariably relies on electronic guidance, control and instrumentation, will continue to be an ever increasing customer of this division of the industry.

Commercial electronics has a tremendous future in a variety of uses. One of the relatively unexplored areas is in medical electronics. New instruments are sure to come for the prevention, detection and even the cure of disease through electronics.

IV. Military Electronics

Military purchases accounted for approximately 50% of industry sales in 1957. The Southern California electronics business historically has been predominantly in the military field and has grown up largely around the complex weapons and control systems for manned aircraft.

Today, emphasis and top priority has shifted to missiles. While modern jet fighters and bombers rely greatly upon electronic systems and components, the ballistic missile must depend almost completely upon electronics as a substitute for human hands and brains. This presents at once a challenge and an opportunity. A challenge to help meet and surpass the missile prowess of our potential enemies. An opportunity, here in the heart of the missile industry, to capitalize upon our pioneer experience in basic missile development and take giant strides forward.

Missile Programs Underway

At last count there were 35 missile programs underway plus new research programs for the Air Force, Army and Navy. (This does not include Operation Goofnik, the much publicized satellite turned stalagmite.) Of the 35 prime contractors engaged in these missile programs, 11 of

them, or more than 30%, are in Southern California. Twenty-eight firms, representing 25% of all contractors working on air frames, power plants or guidance systems, are located here, not to mention the hundreds of firms supplying thousands of electronic devices and components which make up various sub-systems and ground support equipment. General Funk, in his address before the Los Angeles Council of the West Coast Electronic Manufacturers Association last October, stated that more than 50% of all major sub-contractors in the Air Force Ballistic Missile Program were located in Southern California. That's the Air Force alone. I'm sure that quite a similar percentage would apply to Army and Navy missile programs.

While all this illustrates rather clearly the present emphasis on missiles, it does not mean that manned aircraft will cease to be a major factor in our economy in the foreseeable future. The radical new super-bomber, Weapon System 110A, which North American Aviation is building for the U. S. Air Force, bears testimony to the continued importance of the airplane, both in strategic planning and industrial growth. Like color television, the missile is forward-looking and glamorous, but black and white pictures (and manned aircraft) will be with us for a long time. In fact, many contracts similar to the 110A are expected in Southern California before military pilots are put out to pasture with the horse.

Boon for Electronics

The Business Forecast for 1958, published by the Prudential Insurance Company, predicts an increase of \$2 billion in Federal spending. While appropriations for manned aircraft have declined and will decline further (from around \$4 billion to less than \$2 billion), missile dollars will more than take up the slack. In fact, funds allocated to electronics are expected to double during fiscal 1958. It looks as though the lean spell is about to swell. Ham and steak may soon supplant hot dogs on electronics tables, with a healthy economic pie to share for dessert.

If present forecasts are reliable, we can count on having that pie a la mode. As we flex our missile muscles, we will be revitalizing and expanding our non-military strength as well. The greater emphasis on missile output, the beginning of an anti-missile program, and a higher defense budget probably will bring sales in this area from \$3.5 billion in 1957 to \$4 billion in 1958. The electronics industry, by means of a formula it has developed, estimates that 23% of all military procurement dollars are now going and will go in 1958 to the electronics industry.

We Have the Brains

There is one general key to the expansion of electronics which deserves to be noted although its implications go far beyond 1958. There is only one raw material that counts in electronics—brains. And brains we have, in abundance. Southern California boasts the greatest per capita engineering scientific population in the United States. From its vast reservoir of knowledge can come a perpetual stream of new products, even new fields of products yet unknown. As we say in the missile field—if it works, it's obsolete!

As I see it, there is but one inhibiting force and that is the tendency of all industry to put a stop-watch on invention. All of us are guilty of placing upon creative minds the pressure of urgency. As a result, too much technology is based upon the use of old ideas in new ways, rather than upon pure research in realms of the untried.

Need for Basic Research

Basic or pure research has been characterized as the pursuit of knowledge for its own sake rather than to fulfill some practical objective. This is a luxury many of us have been unable or unwilling to afford. Impractical as basic research may seem in its initial purpose, it is an essential prerequisite to applied research and product development. Some of the greatest technical advances of recent years have come from basic research projects that had no immediate practical objective.

For example: Radar was the outgrowth of a basic research project whose purpose was to obtain information about the height of the ionosphere, the layer of air that lies some 25 miles above the earth's surface.

Transistors, the miniature devices which are now vital components of hearing aids, pocket radios and a wide variety of industrial and military equipment, were invented following university investigations as well as basic research initiated by Bell Laboratories into the electrical behavior of solids.

Neoprene, a synthetic rubber, was developed with the help of basic information provided by Father Nieuwland of Notre Dame who discovered he could control the polymerization (the linking together of molecules) of a certain class of organic compounds.

Profit of the Future

Either government-sponsored for military purposes or company-sponsored for growth purposes, or both, the electronics industry must, and I believe will, see that basic research moves forward. Explorations into uncharted areas may not produce income for Southern California in 1958, but I believe they will be recorded in the profit and loss statement of our future as fruitful investments. If scientists are eggheads, as they often are labeled, I can only emphasize: "What we need in the electronics business are more eggheads and fewer fatheads."

Expansion in the form of company mergers will continue to offer opportunity for growth in 1958. Integration of compatible companies is the normal, inevitable manner in which booming industries consolidate their past and stabilize their future. It's a healthy form of growth when allied interests combine brains and resources to produce greater versatility and strength.

Small Can Compete

But the electronics industry is not for the large alone. On the contrary, a healthy industry requires both large and small. Missile and weapon systems require the large skilled companies which Southern California so fortunately has—Douglas, North American, Lockheed, Hughes, Northrop and others are world renowned. But unlike the auto, steel or chemical fields, electronics contains many fields where smaller and medium-sized companies have many advantages, in terms of speed, lower production costs and lower overhead rates. Further, many of the best engineers in our industry would rather work in smaller companies or run their own firms. Most important, since many areas of electronics do not require much equipment beyond a soldering iron, brains and ambition, large financial investment in costly facilities is not required as in steel, chemical or autos.

With all the natural advantages which Southern California has in university centers, climate and the association with the leading companies in electronics, you will see the continued growth of small, medium and large electronics companies in Southern California in 1958.

Summary

Nineteen fifty-seven total industry sales equaled about \$7 bil-

lion in the various fields of military, industrial, component and consumer products. 1958 sales indicate an increase of 8% to 10% over that total, fairly well distributed in the several groups, but with an edge to military equipment.

The beeps of Sputnik I and II have faded into history, but they still can be heard echoing through the universe. A frightening sound, yet a promising one. The race into space has begun and, speaking for the electronics industry, I'm confident we will win it. The missile era presents bright prospects for business expansion in Southern California in 1958. I sincerely hope it also portends victory in the Cold War, peace in the world and the greater use of our talents for peaceful purposes in future years.

Cincinnati Gas & El. Offers Underwritten

An underwriting group headed jointly by Morgan Stanley & Co., W. E. Hutton & Co., and Blyth & Co., Inc. offered for public sale yesterday (March 12) 130,000 shares of new cumulative preferred stock, 4 3/4% series, \$100 par value, of The Cincinnati Gas & Electric Co., priced at \$100 per share to yield 4.75%.

Concurrently, the company is issuing to the holders of its common stock rights to subscribe at \$28.50 per share for 450,923 shares of additional common stock at the rate of one share for each 16 shares held of record at the close of business on March 11, 1958. The subscription offer, which is being underwritten by the same group of investment firms, will expire at 3:30 p.m. (New York time) March 26, 1958.

Proceeds from the sale of the new preferred stock and the additional shares of common stock will be applied to the construction program of the utility company and to payment of outstanding bank loans of \$7,299,333.

According to the company's program, construction spending will amount to approximately \$30,777,000 in 1958. Of this total, \$25,720,000 will be for electric facilities, \$4,784,000 for gas plant and the balance for common and other plant.

The company and its subsidiaries supply electric energy and natural gas in an area located principally in southwestern Ohio and northern Kentucky with a population of about 1,300,000. Principal communities served include Cincinnati, Middletown and Norwood in Ohio, and Covington and Newport in Kentucky. In addition, the company supplies the entire electric energy requirements of the municipal electric systems in seven smaller communities, and sells some energy to the municipal electric system of Hamilton, Ohio. The company also supplies the requirements of Hamilton's municipal gas distribution system.

For the year ended Dec. 31, 1957, the company reported total operating revenues of \$120,809,000 and net income after preferred dividends of \$14,477,000, compared with \$114,403,000 and \$14,214,000, respectively, in 1956.

The company has paid dividends in varying amounts on its common stock without interruption in every year since 1853, and has one of the longest unbroken records of dividend payments of any company listed on the New York Stock Exchange. On March 10, 1958, the company declared a quarterly dividend of 3 1/2 cents per share payable May 15, 1958 to holders of record April 15.

Ward Named Director

Francis T. Ward, partner of Morgan Stanley & Company, has been elected a director of The Yale & Towne Manufacturing Company.

"Gold Scare" in 1958

By PAUL EINZIG

One of world's leading monetary economists compares false gold price appreciation rumor during U. S. A. boom recovery of 1937 with current gold devaluation rumor. Dr. Einzig points out how over-delayed disclaimer aided the economy in the former year and ponders whether this might, in reverse, work again by engendering recovery. Hopes devaluation rumor becomes no more than that on the grounds that raising the mint gold price would be price inflationary. Doubts whether Americans would make a free gift to U. S. S. R.

LONDON, Eng.—Most of us had no cause to recall in recent years the strange memory of the "gold scare" in 1937. During that year



Paul Einzig

a large number of people over the five continents—economists, Stock Exchange operators, bankers, journalists, investors—got it into their heads that the United States Government intended to lower the official buying price of gold from the figure of \$35 fixed three years earlier. By 1937 there appeared to be indications of boom-like developments, and the Washington authorities were credited with the intention of checking them by means of lowering the gold price.

Although the Washington authorities themselves did not initiate these rumors, they abstained for a long time from discouraging them effectively. Indeed they welcomed them, because they hoped that the damping effect of the rumors would obviate the need for taking active steps to check an unwanted boom. They must have been inspired by Bernard Shaw's character, Captain Chotover, who sought to enforce discipline on his ship without resorting to flogging, by spreading about himself the rumor that he had sold his soul to the devil, thereby inspiring the required degree of terror among his crew.

Origin of 1937 Gold Price Scare

Stockbrokers and speculators were the initiators of the "gold scare." But after the flight from gold and from gold mining shares has made some progress, economists, and bankers, too, discovered that there was theoretical justification for a cut in the dollar price of gold. Instead of guiding public opinion, they were guided by it. Nor did the scare confine itself to gold and mining equities. After a while it began to affect Stock Exchanges in general, and business activity took a downward course.

Thereupon long-overdue official disclaimers of any intention to tamper with the price of gold brought about a recovery. The United States authorities succeeded in their intention of influencing the business cycle by allowing the development of a "gold scare" and then stopping it at the right moment.

Is history now repeating itself in an inverted sense? Since the beginning of 1958 there has been a great deal of speculation about the possibility of an increase in the official American selling price of gold. So far its effect has been confined to a revival of demand for gold and gold mining shares. But it is widely assumed that, should the movement gather momentum, it would affect Stock Exchanges in general and it might lead to a revival of business activity. Possibly the United States authorities, with the experience of 1937 in mind, welcome the rumors and forecasts for which they can not be held responsible, in the hope

that the inverted "gold scare" would obviate the need for drastic action to bring the recession to an end.

Devaluation Would Be Inflationary

Beyond doubt, an increase in the dollar price of gold would produce inflationary effects. And it is probable that these effects would go considerably further than merely arresting the present recession. There might not be an immediate expansion of credit as a result of increasing the gold reserves through their revaluation. But the psychological effect of making such an expansion possible would be considerable. Such effects would be worldwide. The revaluation of gold reserves in terms of dollars would increase the safety margins of these reserves over minimum requirements. The result would be a relaxation of disinflationary measures which were taken under the influence of the decline of the gold and foreign exchange reserves.

The gold output would increase, as it would become profitable to work seams which are at present unprofitable. There would be an increase in the export of Soviet gold, attracted by the higher dollar price. Private hoarders, too, would be tempted to take their profits by de-hoarding, as they did during the 'thirties as a result of the increase in the price of gold. There would be a substantial increase in the physical stocks of monetary gold, in addition to the bookkeeping increase resulting from the revaluation of gold. All this would be inflationary.

It may well be asked whether the world is really in need of such a dose of inflation. Until a few months ago everybody agreed that excessive inflation was by far the gravest economic problem of the free world. Even if inflation fears have been overshadowed, for the time being, by deflation fears, the basic position has remained unchanged. Once the present recession has spent its force the industrial countries will have to face once more the wage-price inflationary spiral. An increase in the dollar price of gold would greatly aggravate that problem.

Needless to say, it would be highly satisfactory if the mere anticipation of an increase in the gold price were sufficient to check the recession. In that case the United States authorities would be in a position to arrest the inverted "gold scare" by producing convincing evidence of their determination to maintain the present gold price. Once the recession is ended it would become possible to concentrate again on the problem of inflation. In the absence of an increase in the price of gold its solution would be no more difficult than it would have been before the "gold scare."

Free Gift to Soviet

It is by no means certain, however, whether the psychological weapon of the "gold scare" will be as effective in 1958 as in 1937. In the meantime Soviet gold production has assumed considerable importance as a factor influencing the attitude of the United States authorities. It seems doubtful whether many people would seriously expect the United States Government to make a free gift to the Soviet Union by raising the official American price of gold.

Empire Underwriters

(Special to THE FINANCIAL CHRONICLE)

ATLANTA, Ga.—Empire Underwriters Corporation, Inc. has been formed with offices in the Mortgage Guarantee Building to engage in a securities business. Officers are Thomas Thompson, Sr., President and Treasurer; Harry R. Churchwell, Vice-President; and S. E. Cannon, Secretary.

Eastman Dillon Admits New Partners

Charles V. Leroy has been admitted as a partner in Eastman Dillon, Union Securities & Co., 15 Broad Street, New York City, members of the New York Stock Exch., it has been announced. He is Manager of the U. S. Government, Federal Agencies and Equipment Trust Certificates Department.



Charles V. Leroy

Mr. Leroy joined Union Securities Corporation in Nov. 1938; the company merged with Eastman, Dillon & Co. in September, 1956. Previously, Mr. Leroy was associated with J. & W. Seligman & Co. and with Hallgarten & Co.

In addition, Willis L. Roberts has been admitted as a partner in the Chicago office of Eastman, Dillon, Union Securities & Co. He has been associated with the firm for 10 years, having joined the predecessor firm of Eastman, Dillon & Co. in 1948 as a sales representative.

Form A. A. A. Secs.

(Special to THE FINANCIAL CHRONICLE)

ATLANTA, Ga.—A. A. A. Securities Company Inc. has been formed with offices at 1066 Gordon Street, Southwest to engage in a securities business. Officers are J. W. Pierce, President; and Mrs. J. W. Pierce, Secretary.

C. W. Geisel Co. Opens

(Special to THE FINANCIAL CHRONICLE)

LOS ANGELES, Calif.—C. W. Geisel has formed C. W. Geisel & Co. with offices at 618 South Spring Street to engage in a securities business. Mr. Geisel, who has acquired a membership in the Pacific Coast Stock Exchange, was formerly with Noble, Tulk & Co.

Columbus and Southern Ohio Electric Co. reports:

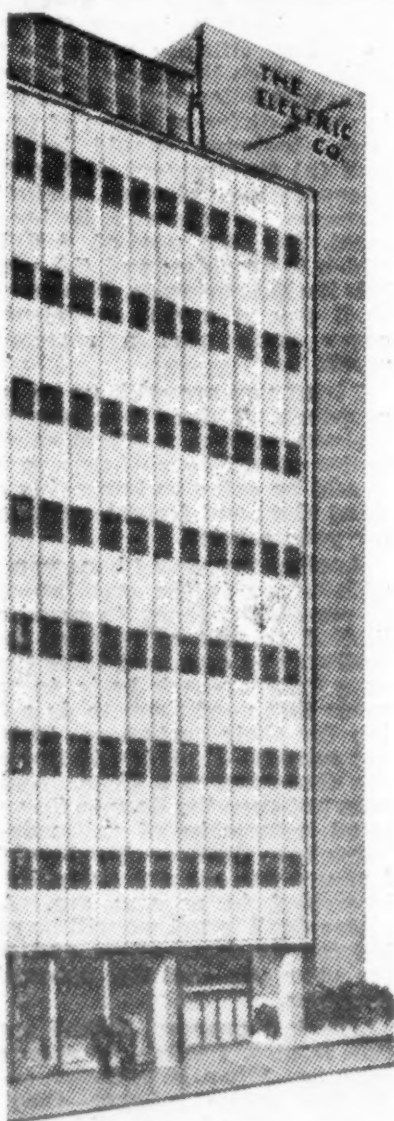
Another year of progress in Ohio's most progressive area!

In 1957, construction activity reached an all-time high. A total of \$31,450,000 was invested in new equipment and a \$60,000,000 budget established for continued expansion during the next three years. Plant investment now stands at \$229,000,000—more than double our 1950 figure. Last year's record growth, in every phase of operations, resulted in increased revenues, wages and earnings.

RESULTS OF OPERATIONS

	Year Ended December 31	
	1957	1956
KWH Sales (000)	2,162,828	2,074,282
Operating Revenues	\$44,305,821	\$41,678,123
Operating Expenses	34,121,566	32,676,011
Operating Income	\$10,184,255	\$ 9,002,112
Gross Income	\$10,457,628	\$ 9,355,804
Income Deductions		
Interest and other	\$ 3,975,674	\$ 2,912,945
Interest charged to construction (credit*)	1,312,072*	337,459*
Total	\$ 2,663,602	\$ 2,575,486
Net income	\$ 7,794,026	\$ 6,780,318
Preferred Dividends	970,491	859,824
Earnings on common shares	\$ 6,823,535	\$ 5,920,494
Earnings per common share	\$2.57	\$2.23
Common Shares outstanding	2,651,360	2,651,360

THE COLUMBUS AND SOUTHERN OHIO ELECTRIC COMPANY
215 North Front Street • Columbus, Ohio



Illness of and Cure for The Railroad Industry

By J. M. SYMES*
President, The Pennsylvania Railroad

Mr. Symes sums up rail industry's testimony recently presented to Congress. States industry envisages dangerously weakened condition persisting, even with the return of business recovery, with nationalization as final outcome unless Congress corrects the situation. Presents six proposals to cure the railroads' illness, discusses feasibility of a government leasing arrangement, and advocates rail consolidation.

A couple dozen railroad men were called to Washington the week of January 13th to testify before a Senate subcommittee.¹



James M. Symes

Specifically, we were asked to submit formal answers to the question "What shall we do about the railroads?"

Our testimony as a whole made, I hope, these three over-all points very clear:

(1) The present railroad emergency is not just a temporary symptom of the recession the general economy is in. It is, instead, a deep-seated and dangerous illness which has been brought to a crisis by the strain of the recession and its attendant fall-off in rail traffic. In short, the slump did not of itself create the present railroad emergency. But it may pull the trigger on a dangerous situation that has been waiting ever since the end of the war to explode.

You see of course why we need to start by making that fact clear. You know as well as I do that the recession is going to end and the economy is going to move forward again: the only question is When? But for the railroads the outcome will not be that simple and conclusive. Our loadings will come up—and Heaven knows we will welcome that. But that will just get us out of the sick-bed: it won't allow us the strength to develop and grow with the growing economy and its increasing transport needs. For our real problem—the problem of getting the millions of added dollars to grow with—will be untouched. Unless Congress meanwhile perceives that Government owes it to you and to the rest of the economy to let us grow.

In that connection we made, I hope, another thing clear. That is that the ending of the recession will not return us to even the limited financial strength we had before. As in the case of the two other postwar recessions we've been through, we will come out of this one far weaker than when we went in. Three obvious reasons for this are assets sold off to raise cash, interruption to debt reduction, and a backlog of deferred maintenance and equipment purchases to take care of.

To sum up the first point, we tried to make clear to the Senators that our present emergency is not just an aspect of the recession that will disappear when the recession is over. We will be over our cold, but we will still have anemia.

(2) The second major point we tried to make clear is something you know as well as I do—how Government transport policies, by treating railroads differently from any other form of transport or any other public utility or general business—keep the industry weak financially and in growth. Because, as I say, you know as much about that as we do, I won't re-

view that part of our testimony here. I must, however, assure you on one thing about our testimony on that point. We made clear that the logical and final outcome of such treatment, if it is persisted in, is Government ownership and control—first of the railroads and then of the rest of transport.

I imagine you are, and with reason, as frightened of that as we are—for you know what you as shippers would have to expect with Government operation. Competition for your business would not be permitted—and there would go competitive pricing and the efficiency that competition brings. There would be deficits that would make the Post Office deficits look small in comparison—and you as taxpayers would make them up. And make no mistake about it—all common carrier transportation would have to be taken over. I mention that as a businessman and not just as an American—but you can imagine my feeling about it on both scores.

(3) Our third major point was that it was up to Congress to correct the situation—and to that end I presented some 19 definite proposals. Some were simple and easy to understand—repeal of the 3 per cent tax on freight, for example. Others were complex and required reams of explanation and documentation.

I would like to mention proposals in three areas that I should think would be of special benefit to you as shippers.

One is for a change in Government attitude to rail passenger services. You know about our passenger service deficits—and how they drain off money that should be going to betterments in equipment and service.

The railroads compete for passenger business with the airlines, the buses, and the private automobile. We alone are required by law to perform a substantial portion of these services at a deficit—the effect of which on the Pennsylvania Railroad alone last year was a loss of about \$57,000,000. This loss not only subsidizes the public need for certain passenger service, but also results from inadequate payments by the Federal Government for handling mail, from being forced to run trains which the public has deserted, and from the express services which we run in competition with United States Parcel Post. Helping to swell the deficit are the heavy taxes levied by many state and local governments on our passenger stations and rights-of-way, while tax-exempt facilities of a similar nature are furnished to our airline and bus competitors.

At the same time, the large passenger service railroads are tightly bound in a regulatory strait-jacket. We are not given the right to adjust our fares and services so as to provide the most effective passenger transportation to the public at the least cost. Almost every alteration or improvement we desire to make along these lines is either postponed or ultimately denied as a result of local pressures. While in this way we are treated as an old-fashioned monopoly, Government policy has failed to recog-

nize our right to receive assistance rather than handicaps when it comes to performing services which are essential but cannot be made to pay. Meanwhile, Government at all levels is spending vast sums of money to enlarge and modernize the facilities available to our competitors.

I am sure none of that situation is any news to you. What may be new is the 6-point program suggested for correcting it. I'll run through them quickly:

(1) The Government should allow the railroads full cost, plus a reasonable profit, for handling mail. In 1956, \$10,600,000 of the \$54,700,000 the Pennsylvania lost on passenger services was lost handling mail.

(2) Parcel Post service should be limited to very small packages of true mail type, or the Post Office should take over the Railway Express Agency by buying its facilities and equipment. As matters stand, the railroads are being compelled to lose money on both services without the public getting the good package-shipping service it should have.

(3) Railroads should be given authority to establish fares and services that will eliminate operating deficits for specific trains. Since most of the trouble here is with State Public Service Commissions, which are subject to local pressures, authority in these matters should be turned over to the Interstate Commerce Commission. When the Commission requires us to run money-losing trains as a public service—and will not permit us to raise rates—Government should reimburse us for the money thus lost.

(4) Metropolitan rail commuter services lose many millions of dollars a year. Users object to paying fares sufficient to cover the cost of providing the service, and regulation will not permit its discontinuance. When that is the case, communities that insist on the service should support it by direct subsidy or some equivalent.

(5) The 10 per cent Federal tax on passenger travel should be removed. Like the 3 per cent tax on freight, this was a war measure, unjustified in peace, and today a prime discourager of needed passenger revenue.

(6) In order to help correct many of these problems, and to provide the basis for a solution in other important areas, Congress should specifically prescribe the policy which the Federal Government will follow in its direct dealing with different forms of transport. Included should be laws that (a) Government shall collect adequate user charges, including a reasonable return on its investment, for the use of facilities which it provides; and (b) where it is itself a customer, Government shall pay at a rate sufficient to cover costs plus a reasonable profit.

I trust you are with us on such proposals. I don't see how else we can correct a situation that drains off millions of dollars that should be going to improving our fixed plant and freight equipment for your service.

Another proposal I hope you are with us on is the creation of a Government agency to acquire a limited amount of railroad locomotives and cars, and lease them, on a full-pay-back basis, to railroads that need them to do a full job for their customers. This is not subsidy—since it will not cost the Government a dime. And it does not open the door to Government ownership of railroads—it helps keep the door closed—which I assure you we are every bit as interested in as you are. And please don't forget we will be paying for the locomotives and cars for your use—not for decorative purposes.

The last proposal I shall mention is also, I think, to your advantage. When it is shown to be in the public interest—that is, in your interest—consolidations of

Railroad Securities

Southern Railway

Southern Railway was one of the few of the nation's carriers which was able to show fairly well maintained earnings in January, despite higher wage costs and a slight drop in gross operating revenues. February, of course, probably will show a large decline from the like 1957 month because of weather conditions which brought almost unprecedented snows and cold to the territory, which hampered both railroad operations and manufacturing activity.

January gross revenues amounted to \$23,100,667, as compared with \$23,683,906 in the like month last year. This was a comparatively minor decline, as compared with most carriers. Net income for the month declined to only \$2,874,426 as compared with \$2,963,716 a year earlier. It is understood that there were no unusual adjustments accounting-wise to account for the January report.

While February earnings undoubtedly will be down from last year because of weather conditions, as previously pointed out, it is understood that recently carloadings have begun to show some pick up so that March earnings might not be as badly depressed as had been anticipated.

One factor which has tended to hold up the road's traffic on a comparative basis has been the movement of coal. Most of the soft coal handled has been steam coal for the operating utility companies in the territory served. The utilities in the district served have registered expanding earnings in the past several years. Many new generating plants have been constructed to meet the growing demand of the service area.

While the growth in population of many of the States in the South has not registered the same rate of growth as some other sections of the country, still the district has increased greatly in the past few years in industrialization which has increased the demand for additional electrical power and the need for more steam soft coal. In addition to this, most of the plants in the South are comparatively newer and more modern than in the so-called industrial East and it has been found more economical to operate these plants at a higher rate than the older ones.

Southern Railway continues in a strong financial position. At the end of last year, cash amounted to \$24,279,420; temporary cash investments were \$22,184,736 and special deposits were \$3,308,654. This compared with cash of \$23,222,684; temporary cash investment of \$31,114,595; and special deposits of \$3,625,876 at the end of 1956. Net current assets—current assets less current liabilities—at the end of 1957 amounted to \$20,198,985, as compared with \$15,002,296 at the end of the preceding year.

As an indication of Southern Railway's credit, on Jan. 6, a subsidiary company, Virginia & Southwestern Railway Co., sold at competitive bidding \$5,000,000 general mortgage bonds, guaranteed by Southern Railway, at a cost of 4.33% to the company. Even with lower interest rates in

railroads into fewer number of systems should be encouraged and expedited. This would not require new legislation, but increased railroad initiative and Commission approval should be urged. Wasteful duplication and overlapping of facilities and services would thus be eliminated, to the benefit both of the customers and of the industry.

general this is regarded as a good price for a railroad issue and was sold before the latest drop in the discount rate by the Federal Reserve Board.

Last year the road reported a net income equal, after taxes and charges and preferred dividend requirements, to \$4.78 a common share, as compared with \$5.52 a common share for the 1956 year. Last year the road paid dividends of 70 cents a share quarterly, or a total of \$2.80 for the full year. It is believed that this rate will be maintained, unless there is a further serious decline in general business activity.

Randell V.-P. of Mutual Management

Mutual Management Company, of 120 Wall Street, New York, sponsor of Mutual Investment Fund, Inc., announces the appointment of Donald H. Randell to the office of Vice-President.



Donald H. Randell

Mr. Randell was formerly associated with the Investment Department of the United States Trust Company of New York, as an Oil Specialist, and with the Investment Department of the Home Insurance Co., where his responsibility was the company's investments in oil, natural gas and mining. In 1954 Mr. Randell took over the management of two mutual funds, the Natural Resources Fund and the Natural Resources Fund of Canada. Since then he has been associated with Kerr & Co., Reynolds & Co., and Walston Co., in New York.

On Committees for Salvation Army Drive

Two men in the investment field are serving as chairmen of committees in the Commerce and Industry Division of The Salvation Army 1958 Appeal.

Homer J. O'Connell of Homer O'Connell & Co., Inc., 120 Broadway, is Chairman of the Commodity Exchange and Over-the-Counter Securities Dealers Committee.

W. W. Stokes, Jr., Partner in Stokes, Hoyt & Company, 15 Broad Street, is Chairman of the Stock Exchange Committee.

Eugene W. Mortlock, President of First Federal Savings and Loan Association of New York, 1274 Sixth Avenue, is Chairman of the Savings and Loan Associations Committee in the Commerce and Industry Division of The Salvation Army 1958 Appeal in New York City.

The Appeal, which has a goal of \$1,275,000, is seeking support for the 60 institutions and services operated by The Salvation Army in Greater New York.

Now Dual Planning

FREEMONT, N. Y.—The firm name of Mark Weisel Company has been changed to Dual Planning Corporation, and offices will be located at 46 West Sunrise Highway. The firm was formerly located in North Bellmore.

*From a talk by Mr. Symes before the Traffic Club of Philadelphia and the Atlantic States Shippers Advisory Board.

¹ Surface Transportation Subcommittee of the Senate Committee on Interstate and Foreign Commerce, Senator Smathers, Florida, Chairman.

NEWS ABOUT BANKS AND BANKERS

CONSOLIDATIONS
NEW BRANCHES
NEW OFFICERS, ETC.
REVISED
CAPITALIZATIONS

L. William Moore has been appointed to the advisory committee of the **Chase Manhattan Bank's** branch at Madison Avenue and 45th Street in Manhattan, it was announced by George Champion, President.

The appointment of Edward C. McDermott as an Assistant Secretary of **Manufacturers Trust Company, N. Y.** is announced by Horace C. Flanagan, Chairman of the Board.

Mr. McDermott joined Manufacturers Trust Company in 1940. At present, Mr. McDermott is assigned to the branch loan control department located at the bank's new head office, 44 Wall Street.

Manufacturers Trust Company, New York, has just moved its head office to 44 Wall Street—corner of William Street. The building has been completely modernized and redesigned to offer more convenient, effective and faster service to all groups of customers.

Chemical Corn Exchange Bank, New York, has elected Herbert M. Kelton to its Rockefeller Center Office Advisory Board, it was announced on March 7 by Harold H. Helm, Chairman.

Mr. Kelton is a Director and Vice-President-Finance of United States Rubber Company. He is a member of the American Institute of Certified Public Accountants and the Controllers Institute.

Irving Trust Company, N. Y., announces the promotion of Edward D. Wilson from Assistant Vice-President to Vice-President. Since joining the Irving staff in 1953, after more than 20 years experience in mortgage financing, Mr. Wilson has been a member of the bank's Mortgage and Real Estate Division. Henceforth Mr. Wilson will be associated with the bank's Loan Administration Division.

The **Industrial Bank of Commerce, N. Y.**, announced the election of Whitney T. Kelsey as a Senior Vice-President, assigned to the commercial division. He formerly was an officer of the **Guaranty Trust Company of N. Y.**

Carl H. Huebner, associated with the Metropolitan Life Insurance Company, has been elected a trustee of the **Excelsior Savings Bank, N. Y.**, as announced by Willard F. Place, President.

Neil D. Callanan, a Vice-President of the **Manufacturers and Traders Trust Company, Buffalo, N. Y.**, died March 6. He was 61 years old. Mr. Callanan joined the bank in 1929 and became a Vice-President in 1944.

By the sale of new stock, the common capital stock of **The National Commercial Bank and Trust Company of Albany, N. Y.**, was increased from \$5,269,500 to \$5,532,975, effective Feb. 21, (number of shares outstanding—737,730 shares, par value \$7.50).

The **Rutland County National Bank, Rutland, Vt.**, increased its common capital stock from \$200,000 to \$250,000 by a stock dividend and from \$250,000 to \$300,000 by the sale of new stock. Effective Feb. 26, (number of shares

outstanding—3,000 shares, par value \$50).

Paul I. Wren was elected a Vice-President and member of the trust investment committee of the **Old Colony Trust Co., Boston, Mass.**

Permission has been obtained by the **National Bank and Trust Company of Fairfield County, Stamford, Conn.**, to open three new branch offices, two in New Canaan and one in Wilton. This will give the Bank 14 offices.

A proposal to merge the **Barclay-Westmoreland Trust Company, Greensburg, Pa.**, with **Mellon National Bank and Trust Company**, has been approved by the boards of directors of both banks and will be submitted to their shareholders in April, according to an announcement on March 7 by John Barclay, Jr., President of Barclay-Westmoreland Trust and Frank R. Denton, Vice-Chairman of Mellon Bank.

Under the terms of the proposal, Barclay-Westmoreland shareholders will receive one and two one-hundredths shares of Mellon Bank stock for each share of Barclay-Westmoreland.

Subject to the approval of the shareholders of both banks and by the banking authorities, the two offices of Barclay-Westmoreland Trust will open on April 14 as the Barclay offices of Mellon Bank.

Upon completion of the merger, the following appointments would be made: John Barclay, Jr., Chairman, Advisory Committee; Joseph B. Fogg, V.-P. and Manager; Oliver S. Collins, Vice-President; W. W. Lapham, Vice-President; Clarence R. Drylie, John G. Evans and Joseph H. Beile, Assistant Managers and John E. Gleeson, Trust Officer. Donald E. Dean will head the installment loan department assisted by Edward C. Brinker and Willard J. Martin. Barclay-Westmoreland Trust's board of directors will form the advisory committee.

Barclay-Westmoreland Trust Company, one of the oldest banking institutions in western Pennsylvania, has served the Greensburg area for over 104 years. It was founded in 1854 by Thomas J. Barclay, grandfather of the present President John Barclay, Jr., and Vice-President, Joseph Barclay Fogg. It was known as **The Barclay Bank** until 1903 when it was incorporated as the **Barclay Trust Company**. The bank took its present name when it merged with the Westmoreland Trust Company in 1908.

George R. Schultz, a Vice-President of the **Central-Penn National Bank, Philadelphia, Pa.**, for the last 10 years, died March 4 at the age of 54.

By the sale of new stock, the common capital stock of **The Delaware County National Bank, Chester, Pa.**, was increased from \$1,100,000 to \$1,210,000, effective Feb. 24, (number of shares outstanding—121,000 shares, par value \$10).

D. Clifford Yerkes, a founder and former Vice-President of the old **Southampton State Bank, Philadelphia, Pa.**, died March 5 at the age of 68.

By a stock dividend **The Central National Bank of Sterling, Ill.**, increased its common capital stock from \$200,000 to \$400,000 and

from \$400,000 to \$450,000 by the sale of new stock effective Feb. 24, (number of shares outstanding—18,000 shares, par value \$25).

By a stock dividend, the common capital stock of **The Naperville National Bank, Naperville, Ill.**, was increased from \$50,000 to \$150,000 effective March 1; (number of shares outstanding—3,000 shares, par value \$50).

Richard W. Schenk was elected a Vice-President of **First National Bank in St. Louis** at a meeting of the Board of Directors on March 4, according to an announcement by William A. McDonnell, Chairman.

Mr. Schenk began his banking career with **United Bank and Trust Company** in 1925.

Mr. Schenk joined First National as Assistant Vice-President on December 20, 1955, when the United Bank merged into First National Bank in St. Louis.

Leo A. Fisher, Vice President and Director of the **Bank of Bloomfield, Missouri**, has been elected a Director of the **Bank of St. Louis, Mo.**

"The First National Bank in Rockwood", Tennessee changed its title to "**First National Bank and Trust Company of Rockwood**" effective March 1.

Stockholders of **Citizens and Southern National Bank, Atlanta, Ga.**, will be asked to vote April 8 at a special meeting in Savannah on a proposed sale of \$3,000,000 in new stock and a 5% stock dividend.

Upon approval, stockholders of record April 8 will receive the stock dividend and the right to purchase at \$30 a share the new stock on the basis of one share for each ten held.

The two actions will provide funds for a \$2,500,000 increase in the bank's capital and surplus and \$1,000,000 for the Citizens and Southern Holding Company. The increase will raise the bank's total capital funds to \$36,443,000.

By the sale of new stock the **Citizens National Bank of Leesburg, Florida** increased its common capital stock from \$150,000 to \$300,000 effective Feb. 27, (number of shares outstanding—30,000 shares, par value \$10).

Four Vice Presidents have been appointed in San Francisco by **Crocker-Anglo National Bank**, it was announced by President Paul E. Hoover. They are **James M. Crane** and **Edward J. Schneider** at the 1 Sansome Street office, and **Robert E. Hunter, Jr.** and **Earle V. Taylor** at the 1 Montgomery Street office.

Mr. Crane had eight years' banking and credit analyst experience in New York prior to joining the credit department at 1 Sansome Street in the fall of 1954. Early the following year,

he was promoted to Assistant Cashier and assumed the duties of a loan officer. In 1956, he was named an Assistant Vice President and held that position until his latest promotion.

Mr. Schneider's banking career began with Crocker-Anglo in 1950. Assigned originally to the credit department, Mr. Schneider was named an assistant Vice President five months later. Subsequently, he performed loaning duties and, under his new title, he will act as a loan officer.

Mr. Hunter had three years banking experience in New York City before coming to Crocker-Anglo in September, 1949. Originally an investment analyst, Mr. Hunter was later transferred to the credit department, where he was named an assistant cashier in 1952. Two years later he was promoted to Assistant Vice President and entered the business development department. Under his new title, he will be a loan officer.

Mr. Taylor joined the Bank at the beginning of 1930. Serving at the 1 Montgomery Street office, he became assistant head bookkeeper in 1942, then entered the bank's real estate department. A real estate appraiser in 1948, he was named an Assistant Cashier five years later and was promoted to Assistant Vice President in 1955. Under his new title, Mr. Taylor will continue to function as a real estate loan officer.

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Electronics in Ten Years Will Replace the Auto Industry

By H. L. HOFFMAN*
Hoffman Electronics Corporation
Los Angeles, California

Electronics industry will replace the automobile industry as the nation's economic pulse, encompassing many more segments of the economy, opines West Coast electronics head in prognosticating a doubling of the industry's size to \$20 billion in next ten years. Mr. Hoffman, though pleased in pointing out that the industry "has given the greatest dollar bargain . . . [than] any industry . . .", suggests the time has come to set aside a higher percentage of the billing dollar to research and development.

The electronics industry has had a glorious past and it holds an even more brilliant future. It has rendered an outstanding service in war and peace and has contributed materially to the development and maintenance of a sound economy and a just peace.

In the past ten years our industry has grown from a \$2½ billion industry to a forecasted \$12 billion industry this year. It has seen: Our Home Amusement Industry grow from \$1.3 million to \$2.5 million; Our Repairs and Services from \$0.5 million to \$2.3 million; Our Industrial and Commercial from \$432 million to \$1.9 billion; Our Defense from a low in 1948 of \$145 million to \$3 billion in 1956; and our Broadcasting Industry from \$500 million to \$1.8 billion.

You will note that the most significant increases percentage-wise have been in the parts and the repair and servicing of our equipment, industrial and commercial, and the defense establishment.

Some five years ago we started a realignment of our trade association to serve properly the many interests of our members, and we have given the individual divisions the same type of autonomy that good management dictates we should use in the operation of our own businesses. We are now recognizing further the diversified interests of our association by changing its name from Radio - Electronics - Television - Manufacturers Association to Electronics Industry Association, to describe not only its current activities but, in addition, its probable activities of the future.

Our industry has contributed significantly to our high standard of living and has affected our social and political lives and our security by its accomplishments in industry, education, medicine, the military, communications and transportation. It has functioned as the eyes and ears of man, sometimes his taste and touch, sometimes his muscle, and now it is functioning as man's brain. These applications and functions have increasing significance to all fields of industry. The real challenge ahead is for our industry to find the markets to utilize the new tools, new techniques, and new services that ingenuity and a highly competitive and free-enterprise industry have developed.

Will "Double Its Size"

Statistically our industry is destined to practically double its size in the next ten years and to become a \$20 billion industry—this growth to be across the board but with some of the greatest percentages of growth in our industrial and commercial devices and

with an increasingly significant contribution to defense electronics in our battle for superior weapons.

Our Home Amusement Industry has hit a temporary plateau from which it is destined to move upward as the equipment that we sold in the past 10 years has been made obsolete by dramatic and improved techniques and services.

Our industry is a fairly easy industry to enter, which is well represented by the number of firms that have come into being in this area during the past five years. However, history indicates that intense competition, characteristic of practically all of the phases of our art, forces many people to leave if they lack the proper balance between management, technical development, and marketing capabilities. It would appear that this healthy survival of the fittest in the race ahead will apply to individual companies.

I would like to suggest, as we become an increasingly important segment of the overall national economy, that we assume these responsibilities in a more mature way and that we use some of the simple yardsticks of how much we contribute to our community, the nation, and our stockholders rather than how much we knock our competition.

Ours is an industry that for many years has given the greatest dollar bargain in services and products of any industry in the

country. While television went from a \$600 product to an average of \$200, at the same time we were increasing its capabilities many fold—and this in the face of practically every commodity on the American market going up in price rather than down.

Set Aside More for Research

This practice of passing on the savings of our manufacturing ingenuity and efficiencies to the customer is a healthy one. We must recognize, however, that our forward progress, not only in our home amusement devices but in our other services as well, is dependent on improving and expanding the services rendered to the customers through technical research and development. Certainly we should give consideration to setting aside a higher percentage of our billing dollar for this research and development.

As our military weapons increase in speed, reduce in size, go higher into the stratosphere, deeper and farther in the ocean, electronics will be making a greater and greater contribution to this advance of the art. However, I feel that at the same time we are doing this we should be directing our attention on how to utilize these many new techniques and products in the better processing of industrial and commercial products and services and finding a market for them.

Replace Auto Industry

The automobile industry has been the criterion by which we measured our economy. It is my opinion that the electronics industry in the next 10 years will replace the automobile industry as the economic pulse of our nation inasmuch as electronics will be functioning in all branches of industry as well as in entertainment, communications, medicine, and other social services. Ours is a great destiny and a great challenge. The example we have in Los Angeles of close coordination between community, the academic life, the city and industry is a good pattern to keep in mind in all of our future activities.

Continued from page 7

The Future of Uranium

reactors in England use natural uranium.

By progress in science and technology more and more of the heat available in a unit of natural uranium is being released by fission. But even in the present state of this progress the actual cost of the uranium fuel burned up in a large sized power plant is on the order of one mill per kilowatt hour of electric energy produced. This is less than the burnup cost of most conventional fuels. The reason nuclear plants up to the present time have not been competitive with conventional power plants is not the cost of the burnup of nuclear fuel. It is because nuclear plants have a higher physical plant cost and therefore higher investment and depreciation charges. Also the nuclear fueled plant must have a large stock of uranium in the reactor at the start. After that, only enough uranium fuel is added from time to time to offset the burnup. This initial inventory of nuclear fuel is of course expensive and adds to the investment charge of the plant as a whole.

I have merely touched in a sketchy layman's way on the method of getting heat from uranium and the relationship between the large quantity of ore that must be mined to get a small quantity of fissionable material in order to give background for things I am about to say.

For the past year or so, investors have been in a state of doubt

as to the future of uranium. Their doubts spring from three fears: fear that the control of hydrogen fusion may make uranium power obsolete before it has gotten started, fear that atomic power will not become competitive and fear of an oversupply of uranium. I should like to examine each of these fears.

Sees Fusion Long Way Off

First, as to fusion. We are all aware of the recent reports that neutrons produced in a test tube may have come from the fusion of hydrogen atoms. Whether or not the neutrons produced did in fact come from true fusion, the work—particularly the containment of such incredibly high temperature—represents an important scientific achievement in Great Britain and this country, and one of which the Free World may well be proud. But there is no basis, scientific or otherwise, for the popular impression that power from fusion for industrial applications will be achieved in the foreseeable future, if ever, or that because there is an abundance of deuterium (heavy hydrogen) in sea water that fusion power, if it ever comes, will be cheap, economical and competitive.

The announcements issued by the Atomic Energy agencies in the United States and Great Britain were quite careful and explicit on both of these points.

The British Atomic Energy Authority said, "Many major

problems have still to be solved before practical application can be seriously considered, and the work must be expected to remain in the research stage for many years yet."

Admiral Lewis L. Strauss, Chairman of the A.E.C., within the last month stated that, "We should not expect early harnessing of fusion for the production of power. In the field of fusion, we are not yet at a point comparable to December 2, 1942, when the first self-sustaining fission reactor was obtained."

Admiral Strauss has been the driving force behind the scientific work in fusion, yet even he stated that: "It will be a matter of years before we will be able to build and operate commercial reactors utilizing the deuterium of the oceans." He said, "Years of intensive work will probably be required to develop a laboratory thermonuclear device which would yield more energy than it consumes. And after that, it will require more years to develop a full scale power producer. Therefore," Admiral Strauss concluded, "the controlled thermonuclear program will not interfere with the current development and construction of reactors to produce electricity from nuclear fission."

I have it on the authority of leading scientists in the field that these statements were not merely the expression of scientific caution and conservatism, but that they reflect the true status of this development.

As everyone in the power business knows, oftentimes capital cost, even more than fuel cost, determines the cost of power.

Even if it is possible to extract deuterium from sea water at a reasonable cost, nobody has shown that it will be cheap to get fusion from deuterium and nobody has shown that it will be cheap to get power from fusion. A fish in the ocean costs very little—about as much as the ocean water itself. It is quite another matter when that fish is caught, transported, cleaned, cooked and served to you in a hotel.

Research in controlled fusion is going to continue both in this country and in Great Britain and there will be further scientific achievements and announcements which in the past have been disquieting. But this century will probably not see economic applications of fusion for power and it is somewhat absurd for investors in the uranium and atomic energy industries to become disturbed every time a fusion laboratory has a new scientific advance to report. Scientists, engineers and other technicians are also working on making fission more effective and economical. Why should one assume that they, with a head start of many years, will fail in their more immediate field while those working on the infinitely more difficult problems of fusion will succeed?

My view of the future is that atomic powered electric generating stations will be in operation throughout the United States, and will be producing a very substantial portion of our total electric power requirements long before the first sizable fusion power plant goes on the drawing boards.

Competitive Uranium Power Prospects

Now as to power from uranium becoming competitive. First off, let's state what the competition is. In the United States as a whole the average cost of generating 1 kilowatt hour is about 7½ mills. But when one departs from country-wide averages and goes to sections, the range of such cost is from 4 mills low to 12 mills high. In most of the other countries on earth the cost is substantially higher. I know places where the fuel cost alone is in excess of 20 mills per kilowatt hour.

How are we progressing toward

the goal of economic power from the fission of uranium?

The Atomic Energy Commission has sponsored or stimulated a very sizable program of reactor construction. At the present time, fourteen high-temperature power reactors are operating in the United States, seven of which went into operation during 1957. Construction is in progress on four full-scale power reactors financed principally or entirely by industry, and on a power reactor for Belgium.

The AEC has begun construction of the reactor for the nuclear ship "Savannah" and on three experimental civilian power reactors. In addition, 36 military reactors are under construction making a total of 45 power reactors under construction in the United States.

Also, 50 research and test reactors built in the United States are in operation and plans have been announced for the construction of 67 more reactors of all types. The civilian power reactors now in operation have a total electrical capacity of about 85,000 kilowatts. The reactors now under construction will bring the capacity to more than 650,000 kilowatts by 1960. It becomes increasingly clear that we are going to have a completely atomic powered Navy, representing in the aggregate a great deal of power and therefore much uranium. Three atomic submarines are in operation, 16 are under construction or on order and Congress has appropriated funds for three more. An atomic aircraft carrier and a guided missile cruiser are also under construction.

Let me enumerate some of the atomic plants which are now delivering electricity. There is the big Shippingport plant in Pennsylvania; the Pacific Gas & Electric plant just outside of San Francisco; the Atomics International Plant at Santa Susanna near Los Angeles; the Argonne Laboratory Reactor; and the Army Package Power Reactor at Fort Belvoir, Virginia.

The four large-scale plants being built by industry are: The Power Reactor Development Company plant near Monroe, Michigan, which will have a capacity of 100,000 kw; Commonwealth Edison's plant, southeast of Chicago with 180,000 kw; Consolidated Edison's plant at Indianpoint, New York with 163,000 kw; and the Yankee Atomic Electric Plant at Rowe, Massachusetts with 134,000 kw.

Utilities Are Confident

Clearly the realistic management of our large public utility companies have enough confidence in the future of atomic power to commit several hundred million dollars to the building of these plants.

The first power reactors to be built were necessarily of high cost. High experimental and development costs on these first plants have in some cases doubled the unit cost of the output. Also the pioneer plants had to be over-designed and over-built to insure safety and success of operation.

The learning curve on reactor design and construction will bring down costs rapidly. Only recently Admiral Strauss disclosed that the Argonne Boiling Water Reactor, which is a full-scale experimental power reactor, had been completed in half the estimated time, at half the budgeted cost and was capable of producing 2½ times its designed heat output. He indicated that a comparable increase in heat output is expected at the Pacific Gas & Electric plant and that the Shippingport plant may follow the same pattern. This, of course, will mean significant reduction in kilowatt hour costs.

Despite all of this progress in the reactor field, members of the Joint Congressional Committee on atomic energy have been pressing hard for even greater govern-

*From an address by Mr. Hoffman before the Electronics Industry Association, Los Angeles, Calif.

mental activity and assistance in the building of power reactors. They want to move quickly forward from the present horse and buggy stage of development.

There is pressure too for the Government to give greater impetus to the building of dual-purpose reactors—reactors which would produce power and, as by-product plutonium and perhaps certain radio isotopes as well. In England the big Calder Hall plant produces both power and plutonium. It is because of this plutonium production that the British expect shortly to generate electricity at an initial cost of 9 mills in their nuclear power plant system. England expects to bring her cost of electricity by nuclear fuel below the cost of electricity by conventional fuel within six years. Even England's initial cost of 9 mills is substantially less than the cost of power today in certain sections of the United States, as I have just pointed out. It is significant that England has gone to uranium for its future power system.

If reactors in this country were to produce plutonium and certain of the radio isotopes as by-products of power generation, and if these by-products were sold at prices in line with their value in use, we would be able to deliver nuclear fueled electricity at competitive prices and better.

The use of radioactive isotopes in American industry has been growing rapidly. The AEC estimates that use of these isotopes saved industry about 400 million dollars in 1957. It has been forecast that in a matter of a few years isotopes may bring savings to industry more than equal the cost of our entire Atomic Energy program. Such savings cannot be overlooked in appraising the future of uranium. If isotopes alone will bring savings to offset the entire cost of the program, it is difficult to see how the uranium industry can go in any direction except forward.

Reactor Costs

Meanwhile, reactor costs are coming down on their own. Some of our American reactor designers think that reactors they have on the drawing boards will be able to produce electricity at a cost of less than 7 mills without any help from the sale of by-products. Canadian Westinghouse has just announced that with a reactor which it has developed electricity can be produced for 6½ mills per kilowatt hour.

Only the other day, Pacific Gas & Electric Company announced plans to build a second nuclear plant in Eureka, California, which is expected to produce electric power at a cost of 8 mills which for the area involved is stated to be competitive with substitute sources of electricity production. They say that the experience gained at the Vallecitos laboratory in building their first reactor has made this possible. This is a very significant step in the march toward competitive atomic power in the United States. It is almost here right now.

No Uranium Oversupply

Now for the third prevalent fear: Do we have an oversupply of uranium? Many people think there is a huge stockpile of uranium over-hanging the market and that we have, as the saying goes, uranium coming out of our ears. There is nothing to that at all.

According to Atomic Energy Commission officials, there is no stockpile of uranium in the United States except for about a million and a half tons of ore still to be milled and the uranium which has been already fabricated into weapons. We do not, for example, have stockpiles of uranium oxide, green salts, hexafluoride or uranium metal.

Mr. Jesse Johnson, in charge of raw materials for the Atomic

Energy Commission, was the Commission representative who made the statement last fall to the effect that for the time being new milling contracts would be limited to some areas not now served. This was the statement that so upset the uranium miners and investors. But it is interesting to note that Mr. Johnson, while speaking before the Western Mining Conference last February 7, said, among other things:—that the uranium industry is the bright spot in the mining business; that the Government's purchases of domestic oxide which were at the 171 million dollar level in 1957 will go to 322 million dollars in 1959 and will further increase in 1960; that it will take about 7,200,000 tons of new findings of ore to replace the uranium mining rate in 1959; that the uranium industry is an expanding industry with an assured price; that the current problem of limited uranium production relates only to the short-term period with further expansion needed for the longer term. Also he referred to the fact that electric power represents only about 14% of the total energy consumed in the United States and that uranium may well find an additional important role in many of the fields where heat is used directly in industry.

Last Fall's limitation on new mills reflected in part the Government's emphasis on economy in the national budget. Because of budgetary limitations, the AEC was finding it difficult to purchase more than its current requirement, over half of which, I might add, it was obtaining abroad. These foreign purchases were essential to meet the rapidly expanding military needs of the past few years, but AEC contracts with Canada and South Africa do not run nearly as long as the domestic purchase program. Furthermore, it is politically inconceivable that the Government would continue after the expiration of its foreign purchase agreement to buy uranium abroad and not buy the product of our domestic mines and mills. Recently, the AEC disclosed that they are studying plans to permit uranium companies to enter the commercial market abroad and this may be a first step toward opening up the commercial market generally. There is bound to be an open world-wide market for uranium in time. And my present guess is that the open-market price will be based on \$8 a pound for uranium oxide.

Depicts Our Reserves

Let me give you a quick picture of what our United States uranium reserves look like.

The United States has presently known reserves amounting to between 75 and 80 million tons of uranium ore containing about 175,000 tons of uranium oxide. This 175,000 ton figure may be on the high rather than the low side because some of the tonnage just mentioned may be of a grade that will not be commercial when mining and milling costs are taken into account. The AEC estimates that at the present production rate our domestic reserves of uranium ore will last us only about 10 years. Canada and South Africa both have ore reserves larger than ours, but their ores are of a much lower grade. In Canada, larger quantities of ore must be mined and milled to yield the same amount of oxide, and in South Africa, recovery of uranium is economic only as a by-product of the gold mining industry.

Free World reserves of economically mineable and millable uranium oxide amount to little more than ¾ of a million tons. This is not very large for a metal which is expected to be of such great importance in the future even apart from its military uses.

By 1960, the United States and Canada will each be producing in the neighborhood of 15,000 tons of uranium oxide per year or a little

more with another 5,000 to 6,000 tons coming from South Africa and other sources. This adds up to a Free World production of about 40,000 tons of oxide per year, most of which will be taken by the U. S. Government during this period and longer for military and other purposes.

It is a fair assumption that the Government's requirements will not decrease rapidly. What then is the outlook for the development of a civilian demand for uranium?

AEC officials forecast that 10 to 20 years from now the United States power industry alone may require from 20,000 to 30,000 tons of uranium oxide per year. Others have given even a higher estimate. The British authorities estimate that their requirement will grow steadily until in the 1970's it will probably amount to between 5,000 and 10,000 tons a year. The Euratom countries expect to require from 5,000 to 10,000 tons a year by 1970. Thus we see that the total Free World demand in the next 10 to 15 years may run somewhere between 30,000 and 50,000 tons of oxide per year. Since we are now only building up to an overall production of 40,000 tons a year, it is easy to see that unless the military requirement slackens very materially—which seems to me unlikely—we might not have enough uranium to go around.

My prediction is that we will be pinched for uranium in the 1960's unless we greatly expand our reserves and production.

At the risk of repetition, let me summarize my views.

Summary

The free nations of the world look to us for the fuel, reactors and technology to supply their growing atomic power needs. If we don't measure up, the Russians will. I am confident we will do the job. This assumes a continuance of the fine type of research and development in the reactor and allied fields that have given us the lead to date.

Atomic energy will be needed to supply growing power needs in this country. Our population is expanding rapidly, as is the amount of power used per capita. Reactor costs are fast coming down, and as they come down the use of atomic reactors to generate electricity will increase. Atomic power plants are right now on the verge of becoming competitive with conventionally fueled plants. By 1975, most of the new electric generating plants being built in this country will be atomic powered. By that time, too, we will have an atomic powered Navy.

These large-scale users of uranium will take all the uranium that can be spared from the weapons program. Unless we continue to find new deposits, we face a shortage of uranium before the end of the 1960's.

Power from controlled fusion will not affect the development of atomic energy. Controlled fusion is several decades behind atomic energy in its scientific aspects alone and its commercial application is infinitely more difficult. This century will probably not see the economic use of power from fusion.

I am optimistic about the future of the uranium industry. The Government purchase program will take the bulk of the uranium produced at least into 1966. Commercial atomic energy will provide a substantial additional demand for uranium long before that time arrives.

With A. C. Allyn Co.

(Special to THE FINANCIAL CHRONICLE)

OMAHA, Neb.—Donovan J. Gerken is now with A. C. Allyn and Company, Incorporated, Farnam Building. He was previously with Harris, Upham & Co.

Bank and Insurance Stocks

By ARTHUR B. WALLACE

This Week — Insurance Stocks

In spite of the efforts of some Congressmen and of others in governmental positions, the trend toward mergers among all sorts of corporations continues. The move toward consolidation is no where more pronounced than it is in the insurance industry. For many years the insurance supervisory laws prohibited not only the writing of fire lines and life coverages by a single company, but also, the writing of fire and casualty lines was barred to a single company by most States. This led to the setting up of groups of companies under single management, or, as it was designated, fleets of writers.

The Travelers Insurance Company is a good example of the fleet arrangement. The principal business is life writing by Travelers, the parent. But also operated are Travelers Indemnity Company, which owns Travelers Fire. Charter Oak Fire is also a component of the fleet. The casualty business came into being long after the fire lines had been operating. It was, in a sense, an offshoot of the older part of the industry, and got its principal growth under workmen's compensation laws and, of course, when the motor car grew in popular favor. Deduct the various automobile and the workmen's compensation lines, and the typical purely casualty carrier would do far less business than it does.

When the casualty companies had acquired considerable experience they were looked upon more kindly, and the various States started to legislate to permit cross writing; fire companies were permitted to cover casualty lines, and the casualty companies were allowed to go into the fire business, thus becoming multiple-line writers.

Today most States sanction the cross-writing; and there is every reason why they should, for the run-of-the-mill casualty company is on a par with its fire opposite. Indeed, in one respect it is stronger, for, the casualty business being an uncertain one so far as the loss potential of its main lines is concerned, it usually is considerably more liquid than a fire insurer. Most casualty lines relate to persons, whereas fire lines relate to property; and where a person is involved, losses are much more uncertain than on property damage claims.

Thus the casualty carrier is likely to be well over 50% in liquid assets (cash, U. S. Government bonds, and other bonds), as it must be in a position to pay claims the size of which may not be foreseen.

During the recent bull market in equities all manner of life insurance stocks were brought into the unlisted market. Few people realize that in this country we have over 1,200 life companies, mostly stock as far as numbers go; mostly mutual as far as financial size is concerned. There were rapid price run-ups in many cases, and exceptionally large profits, paper and realized, were

shown. Life companies which for years had been largely somnolent, abruptly became speculative favorites, being ranked among the foremost "growth" stocks. This brought them into popular favor not alone among investors, but among other companies in the insurance field whose State laws permitted mergers of fire-casualty and life units. The result has been the biggest merger move within the insurance industry that we have witnessed. Some of these mergers (omitting obscure cases) are as follows:

National Life of Iowa consolidated with National Travelers at the end of 1957.

Southern Republic Life and South-west American Life.

Continental Fidelity Life of Dallas merged with North American Union Life.

Home Insurance of New York purchased Peoples Life of Indiana.

Northeastern Life and Mount Vernon Life of New York merged.

Continental Insurance of New York and the Loyalty Group (Firemen's fleet) of New Jersey merged.

St. Paul Fire & Marine has taken over Western Life of Montana.

Federal Insurance of New York has consolidated Colonial Life.

Selected Risks Indemnity and Selected Risks Fire merged.

Providence Washington Indemnity merged with the parent, Providence Washington Insurance.

Gulf American Fire & Casualty merged with De Soto Fire of Alabama.

Queen Insurance Co. of America has acquired all the business of Old Dominion Fire.

Boston Insurance acquired Equitable Fire of South Carolina.

Insurance Corp. of America has acquired control of Marquette Casualty Co.

Fidelity & Deposit of Baltimore absorbed its affiliate, American Bonding Co.

United States Fire merged Southern Fire, both members of the Crum & Forster fleet.

Hartford Fire has offered to buy the stock of Northwestern Fire & Marine Co.

This could go on, as a number of other consolidations have taken place. But a number that have been eliminated by the merger route have been replaced by new incorporations, principally of life companies. Are we not to wonder whether there are not too many life companies? And could another deep depression not deplete surplus funds at a time when new writings slowed down greatly?

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Dr. A. F. Burns' Views Challenged for Implications and Contradictions

(1) What happens to Congress and our Constitution should we have an economic council that integrates all economic policies of our far-flung government; (2) are Federal Reserve authorities members of government and come under Employment Act of 1946; and (3) is a stable price level a correct price level, are some of the questions discussed in Dr. Walter E. Spahr's review of recently published book by former head Economic Adviser to President Eisenhower.

Dr. Walter E. Spahr critically reviews *Prosperity and Inflation* (Fordham University Press, New



Walter E. Spahr Dr. Arthur F. Burns

York, 1957) by Dr. Arthur F. Burns, former Chairman, Council of Economic Advisers, in this month's issue of *Monetary Notes*, a news letter on monetary affairs published by Economists' National Committee on Monetary Policy (1 Madison Avenue, New York 10, N. Y.).

Dr. Burns is asked to equate the title of his book "Prosperity Without Inflation" with occurrence of prices generally rising following a depression, and to answer implications raised by his recommendation for a "major advance in the machinery of formulating and integrating the economic policies of our far-flung government." The Committee's executive vice-president points out, with regard to the former, that a proper and a stable price level are two different things and, regarding the latter, the "intention of the author in respect to this issue is not a question which may properly be left open to conjecture."

The obligations and place of the Federal Reserve System under statutory law depicted by Dr. Burns, President of the distinguished National Bureau of Economic Research, and Professor of Economics at Columbia University, is also scrutinized by one of the country's leading monetary economists.

According to Dr. Spahr, "a remarkable feature of this little book of 88 pages by Dr. Burns . . . is his use of the word 'inflation' without defining it. Apparently 'inflation' means a rise in the index of consumer prices. But the title of the book, 'Prosperity Without Inflation,' suggests that prosperity may be attained after an economic depression without rising prices. Other parts of his discussion suggest that 'inflation' means only a further rise in consumer prices. As further examples of the confusion which results from lack of definition, Dr. Burns states, page 12, that 'One of the plainest teachings of history is that rising prices are a recurring feature of the expanding phase of the business cycle.'

Cites Contradiction

"If business expansion means prosperity and if rising prices mean 'inflation,' the question arises as to how we are to obtain 'Prosperity Without Inflation.' On page 70 he expresses the belief that if the Federal government would announce its intention to maintain a relatively stable index of consumer prices this 'could go a considerable distance in dissipating the widespread belief that we are living in an age of inflation.' Presumably if the government could prevent a further rise in consumer prices we would then

not be living in an age of inflation. Yet, on page 42, the author points out that we have had inflation since the 1930's.

"Many questions arise out of Dr. Burns's failure to define 'inflation' in any useful sense. If the word means nothing more than a rise in the index of consumer prices, or its rise above a selected point, he could have added clarity and precision to his analysis by referring to a rise in that index and by avoiding an elusive, undefined term which, though in common use, is rarely defined in a scientific manner. Since prices can rise because of many forces, the procedure of scientific analysis is not furthered by dumping all types of rises, with their great variety of causal factors, into one hopper labeled 'inflation.'

"The principal drive of the argument in this little book seems to be that we should maintain present prosperity and 'full' employment, expand production, and improve living standards, without a further rise in the index of consumer prices. The 'inflation' which has taken place up to date should be confirmed.

"Instead of accepting economic equilibrium as the best condition of economic affairs, Dr. Burns recommends as criteria 'a high and stable rate of employment in relation to the labor force, expanding production, improvement in living standards, and a reasonably stable consumer price level.' (Page 40.)

"Conceivably, the degree of economic equilibrium could reach a level at which there would be no general expansion in production since all the factors of production and forces in exchange, consumption, distribution of income, and the relation of government activities to private enterprise are nicely balanced considering natural resources, population, savings, capital goods, and intelligence. Insistence upon expanding production regardless of restrictive factors which can and do arise is, in the opinion of this author, lacking in validity."

Questions Proper Price Level

"And as to the Burns recommendation of a stable index of consumer prices, presumably at the present level: This author would contend that the only proper price level is the one that prevails in free markets, under a fixed monetary standard and redeemable currency, without monetization of government debt and with all credit automatically self-liquidating, with the government acting as umpire to insure free and fair competition, and that flows from, and reflects, a high degree of economic equilibrium. If productive activity and efficiency increase relative to demand, there surely is no valid reason why prices should not fall or why the value of people's savings should not increase. The Burns analysis is to the effect that the index of consumer prices should be stabilized at the highest level in our history, that the very great losses to which savings have been subjected since 1939 should be confirmed, and that maladjustments in prices resulting from overextensions of credit, monetization of government debt, temporary scarcities, and many other distorting forces should be frozen into our economy.

"Apparently it needs to be emphasized that a stable index of

prices is a mathematical abstraction which reveals nothing as to the harmony or lack of harmony in price relationships. Our experiences of the 1920's should have taught us that. Furthermore, the fixing of prices or the stabilization of the price level, if that is possible, by government or central bank action, is an act of dictatorship which rests upon a fallacious assumption that a few government officials through a process of subjective evaluation can or will specify correct prices while the millions of buyers and sellers who exchange their goods, services, and money in free markets do not arrive at correct prices. A simple fact of economics is that the only correct prices are those determined objectively in free markets.

"Government and central bank policies should foster economic equilibrium; and, if that is approached or attained in any high degree, the price level which flows from it should be correct and reasonably steady. An attempt to stabilize a price level regardless of the forces of maladjustment which may prevail is a case of putting the cart before the horse.

"Dr. Burns says nothing about our system of irredeemable currency being inferior to a redeemable currency, an omission that is remarkable considering the great harm which irredeemable currencies have brought to mankind. The only statement made regarding our departure from a gold standard involves a note of approval. Says Dr. Burns, page 53: 'Surely, the breakdown of the international gold standard has made it possible to base our monetary policies to a greater extent on domestic considerations than was feasible during the 1920's.'"

Economic Council

"Although the Burns program is designed to provide a high degree of government management in monetary, fiscal, and other economic areas, he does not propose that organized labor be subjected to the same variety of regulation, in respect to monopolistic racketeering, and other unfair practices, that is applied to entrepreneurs. He goes no farther specifically than to state, page 84, that 'The least that we can do with regard to trade unions is to subject their finances, as well as the election of their officials, to standards defined by law.'

"The nature of our Constitutional system, and the duties and rights of Congress under the Constitution, receive no attention in the Burns' book. One may infer from his discussion that the Federal government is one of general powers and that it may properly do anything it may be disposed to do to foster what it may regard as, or label, 'the general welfare' without facing any Constitutional restrictions. Indeed, the Constitution of the United States is not mentioned in this book.

"Apparently, in the opinion of Dr. Burns, policy-making in respect to, and presumably the management of, the economic affairs of the Federal government should reside with the President who should be guided by an Advisory Board on Economic Growth and Stability. The 'climactic meetings of the Board would be conducted with the President in the chair and with the heads of the departments and agencies represented on the Board, as well as their deputies, in full attendance . . . A consultative body would come into existence which would carry a weight in decisions on basic economic policies that would be fully comparable to that of the National Security Council in its sphere.' (Page 87.) Thus is it proposed to place economic policy-making or 'the management of prosperity' in the Executive Department. The duties and rights of Congress in this area, as outlined in the Constitution of the United States, are not discussed by Dr. Burns."

Discusses Implications

"His recommendation for an Advisory Board on Economic Growth and Stability in the Executive Department of our Federal government has much in common with the recommendation of the staff of the C.E.D. in 1945 for a program of monetary and fiscal integration under the Executive, a program which, if made effective, would transcend our Constitution and constitute Executive Dictatorship. But Dr. Burns does not pursue the implications of his proposal to their logical end; he does not point out that, if his plan is to be successful as a device for Executive policy-making, Congress must do as directed, or that, if Congress exercises its Constitutional authority and responsibilities it can, and may, render his program for Executive policy-making ineffective.

"A noticeable phenomenon in this country is the frequency with which proposals are made that there be integration of our monetary and fiscal affairs, and sometimes other forms of economic management, the common implication being that the Executive should be the policy-maker and manager, with nothing said as to how such a program is to fit into our Constitutional system. Dr. Burns points out, page 88, the need for 'better organization of economic policy-making,' but he does not indicate how Congress is to be controlled. On page 86 he offers his suggestion for 'lengthening the arm of the Advisory Board on Economic Growth and Stability' to provide a 'major advance in the machinery of formulating and integrating the economic policies of our far-flung government.' What, precisely, does 'integrating' the economic policies of our government mean? If there is to be integration in a literal sense, then the division of authority and responsibility under our Constitution logically disappears. Dr. Burns does not face up to this issue as he outlines his program; like the common run of our advocates of integration in government policy-making or management, he stops short of dealing with this most fundamental issue and leaves it dangling in space.

"This author would agree with Dr. Burns to the extent that the President should have the best possible organization for providing him with the best possible information and advice; but when programs for Executive policy-making or management of monetary, fiscal, and economic affairs are proposed, and proposed along with acceptance of irredeemable currency—a basic tool of government dictatorship—, this author wishes to do all he can to hoist a flag of warning in an effort to help protect our Constitutional system and appropriate liberties from subtle and indirect attacks. If our Constitution is inadequate, amendments should be proposed."

Open to Conjecture

"By failing to carry to their logical conclusion the implications inherent in a program proposing integration by 'government' (the Executive?) of economic policies, Dr. Burns cannot properly be charged with making proposals in this book which, if made effective, would necessarily reach beyond our Constitutional system—except as he may regard the Federal government as having general, rather than delegated, powers. On the other hand, if an Executive Dictatorship could be established, with Congress required to abdicate its functions and responsibilities, the Burns book provides an excellent blueprint for such a system. In the opinion of this author, the intention of the author in respect to this issue is not a question which may properly be left open to conjecture.

"The meaning of the word 'government' is obscure in various places in this little book. Some-

times it seems to refer to the Executive or Administration; sometimes to the Administration and Congress; sometimes, as, for example, on pages 37 and 40, it seems to include the Federal Reserve authorities."

Status of Federal Reserve

"The Employment Act of 1946, according to Dr. Burns, binds the Federal Reserve authorities in respect to policy because, he says, they are 'members of the government.'"

"Various questions arise here: Who are Federal Reserve authorities? Although the members of the Board of Governors are appointed by the President with approval of the Senate, they are paid out of the earnings of the Federal Reserve System and the Civil Service Act is not applied to the officers and employees of the System. Those provisions were written into the law to establish the independence of the Federal Reserve authorities of both Congress and the Executive even though the Board is required to report annually to Congress. The Board's staff is paid in the same manner as are all officers and directors of the Federal Reserve banks. This author is not aware of any scholarly study on the Federal Reserve System which classifies Federal Reserve authorities as 'members of the government.' In any event, it is hardly the common practice for 'members of the government' to be paid by private or quasi-private enterprise.

"Next, although the Employment Act of 1946 enumerates various groups with the assistance and cooperation of which 'the Federal government' is to use 'all practicable means' to foster and promote 'conditions under which there will be useful employment opportunities, including self-employment, for those able, willing, and seeking to work, and to promote maximum employment, production, and purchasing power,' the Federal Reserve System is not among the groups or agencies enumerated. According to the *ejusdem generis* rule of statutory construction, the law applies only to the items enumerated when there is enumeration.

"Still further, the statement of purposes in the Employment Act of 1946 is not statutory in nature. It is transposed preamble material which belongs to a resolution; and preamble material is not binding nor enforceable. It carries no precise statutory provisions to be enforced, and it provides no penalties for failure to carry out the announced purpose, plan, or desire. Transposed preamble-type statements should be recognized for what they are and should not be treated as statute law even when such material follows the enacting clause of what is otherwise designed to be a statute, at least in part.

"Dr. Burns states on page 42 that 'serious depressions are no longer the threat they once were. . . . A question arises as to whether that assertion is supportable by the methods of science.'"

New York Stock Exchange Weekly Firm Changes

The New York Stock Exchange has announced the following firm changes:

Alexander B. Griswold and Arabella L. S. Griswold as trustees under deed of trust dated Jan. 15, 1958 will be admitted to limited partnership in Alex. Brown & Sons.

Transfer of the Exchange membership of the late Arthur W. Ackerman to Paul W. Doll, Jr. will be considered March 20.

Transfer of the Exchange membership of Donald M. Snell to Samuel Wechsler will be considered March 20.

Transfer of the Exchange membership of the late Allan L. Melhado to Frederick A. Melhado will be considered March 20.

Outlook for Electronics Industry

By ROBERT C. SPRAGUE

Chairman of the Board and Treasurer
Sprague Electric Company, North Adams, Mass.

Reflecting the view as seen by parts manufacturers, Mr. Sprague anticipates continued growth for electronics industry, amounting to \$7 billion in 1958. This is based on an assumption of: TV black and white sets equalling 1957 unit figure, with higher dollar value due to slightly higher prices, and marked increase in color sets; continued radio-phono growth; increase in commercial-industrial usages; continued replacement market demand, and expanded electronics defense volume.

A number of serious questions face businessmen as they look ahead. For it has become obvious in recent months that the economy, as a whole, has not been maintaining the levels of output, employment and profits, which had been characteristic of the past several years, and that in fact we are in the midst of a readjustment, rolling or otherwise, of a type that last occurred in 1953 and early 1954. The extent and duration of the decline in business activity are not yet clear, of course, and in the electronics industry the problem is compounded by some very sudden shifts in patterns of defense procurement during the year, as well as a degree of softness in the entertainment market during the fall months. Despite a number of important unknowns in the current picture, however, 1957 in total, set a new peak for volume in the electronics industry, and a number of companies were able to show somewhat higher profits. Total value of factory sales for the industry appears to have come to about \$6.8 billion, representing a 12% gain over the \$6.1 billion figure of 1956. Virtually all of this increase resulted from the non-entertainment segments of our business, the home entertainment market showing no change from the \$1.4 billion level of the previous year.

In television, production of black-and-white sets remained below 1956 throughout the year, reflecting a need to work off fairly large inventories on hand at the start, and in more recent months the failure of retail sales to reach anticipated levels. Sales of sets to the public were about on a par with 1956 through August, but since then have fallen behind, with the result that only about 6.5 million sets were sold at retail against earlier expectations of 6.8-7.0 million. In order to prevent accumulation of excessive inventories, most set makers have followed a very conservative production policy during the fall months, and total factory production probably did not exceed 6.5 million versus 7.4 million in 1956. This drop in production has resulted not only in reduced employment in the set making companies, but also brought about generally lower sales volume for component parts makers in the fourth quarter. Color television, although showing an important increase over 1956, did not contribute materially to total set volume; it is probable that total color production came to 200-250,000 sets compared to 130,000 last year.

The bright spots in the entertainment field were radios and phonographs, both of which enjoyed substantial sales gains in 1957. Total radio production appears to have exceeded 15 million sets for the first time since 1948, as a result of a small gain in home set production combined with a

20% increase in auto radios. Separate phonograph and record player output, apart from combinations with radios and TV sets, reached a new high of over five million units, exceeding even the postwar peak in 1947 and reflecting an increase of approximately 50% over 1956 in high-fidelity systems. A significant feature of the radio market was the continuing increase in transistor use; 45% of all radios made used some transistors, compared to 25% in the preceding year. Transistor production approximately doubled in 1957, to a total of about \$65 million. This rapid growth rate shows every indication of continuing in the years ahead.

Estimates Radio, Phonograph And TV Sales

Prospects for 1958 in the entertainment markets are for continued growth in radios and phonographs, with total radio production depending very largely on automobile production. On balance, a figure of 14-15 million sets appears attainable. Estimates of the unit volume of TV sets in 1958 range from about 10% below to 10% above this year; my own guess would be that black-and-white sets will do well to equal the 1957 unit figures, but that their dollar value may be up reflecting slightly higher prices. With respect to the longer-term outlook for television, it is important to keep in mind that more than 80% of the nation's 50 million homes now have television, with the result that the set market is increasingly dependent on replacement and second-set demand. Probably close to one-half of all sets sold in 1958 will be for replacement. Color television should again show a marked increase, and it seems entirely possible that color production could reach one million sets by 1960.

Turning to military electronics, our industry recorded a 13% increase in shipments to \$3.4 billion compared to \$3.0 billion in the calendar year 1956. However, total expenditures for military procurement fluctuated sharply during the year, rising to a very high level toward the close of the fiscal year June 30, and then being sharply cut back when it became apparent that the prevailing rate would soon result in exceeding the legal debt ceiling. Beginning in late summer, therefore, the armed services reduced their outstanding procurement obligations and began withholding the placement of new orders; ensuing production cutbacks, particularly among aircraft and missile makers, substantially reduced demand for electronic equipment in the fall months. More recently there is some evidence that, stimulated by the effect of the two Sputniks on U. S. thinking and on other factors, the Federal Government has changed its policy and that defense expenditures can be expected to go back to their former level and possibly to exceed it. In fact, an increase of \$1-2 billion over the anticipated \$3.8 billion rate is not out of the question; however, the timing of any such increase is highly uncertain, and in the meantime the electronics industry will be faced with a continuation of the lower level of procurement that has characterized the late fall of

1957. Basically, however, the long-term trend toward increased use of electronics in advanced weapons systems continues, and the current stress on long-range missile development can only serve to accelerated this trend. In fiscal 1957, some 23% of all Defense Department procurement and production funds went for electronic gear, compared to 17% as recently as 1954, and I believe that it is probable that by 1960 close to one-third of such procurement will be for electronics.

Industrial-Commercial Usage

The use of electronics in a wide variety of industrial and commercial equipment continued its strong growth trend in 1957, reaching a total of \$1.2 billion at the factories compared to \$1.0 billion in 1956. This segment of our business has therefore achieved an importance equal to that of the home entertainment market, whereas five years ago it was only one-third the size of the radio-TV business. One of the most important areas of industrial electronics is in electronic computers for business and scientific use. The value of these machines this year was close to \$200 million compared to \$50 million as recently as three years ago. Good gains were also shown in communications equipment, industrial control and instrumentation, and I look for a continuing increase of 10-15% per year in the industry's sales to these markets. From the standpoint of the parts manufacturer these markets are especially challenging, requiring as they do the development of entirely new and specialized types of components to perform a broad range of sensing and logical functions.

Conclusion

In conclusion, I believe that we can look back on 1957 as a year of substantial progress for the electronics industry, despite the many unpredictable factors appearing on the scene in the latter part of the year. How good 1958 will be obviously depends to a considerable extent on what happens to business generally, but I believe that the electronics industry will continue to grow, reaching as much as \$7 billion in factory sales. This assumes a level of home entertainment business unchanged from this year, some increases in procurement of electronics for defense and in industrial and commercial equipment, and continued growth in the important replacement market for parts and tubes which now exceed \$800 million annually. Current conditions are such, however, that the picture can change very quickly, and perhaps more than at any time in the postwar period, there will be a premium on flexibility and ability to adapt our operations rapidly to changes in the overall economic situation, as well as in the individual areas which are the special concerns of our business.

Peoples Planning Corp.

Peoples Planning Corporation of America has been formed with offices at 136 East 57th Street, New York City to engage in a securities business. Officers are Abraham S. Karasick, President; Richard Karasick, executive Vice-President; Gerald Belfert, Vice-President; and Stanley M. Gress, Secretary-Treasurer. Mr. Belfert and Mr. Gress were formerly with Sutro Bros. & Co.

Form Market Corp.

ST. PAUL, Minn.—The Market Corporation has been formed with offices at 93 East Sixth Street to engage in a securities business. Officers are: Rudolph S. Juran, President; Charles R. Alsaker, Vice-President; James E. Klingel, Secretary; and Norbert H. Park, Treasurer. All are associated with Juran & Moody, Inc.

North Central Secs. Formed

(Special to THE FINANCIAL CHRONICLE)

OTTAWA, Ill.—North Central Securities, Inc. has been formed with offices at 119 West Washington Street. Officers are Russell Knudtson, President; Roy Knudtson, Vice-President; M. Knudtson, Secretary; and V. Knudtson, Treasurer.

Forms Republic Secs.

(Special to THE FINANCIAL CHRONICLE)

PASADENA, Calif.—Bruce E. Thornton is engaging in a securities business from offices at 76 South Sierra Bonita under the firm name of Republic Securities Company. He was formerly with Daniel E. Weston & Co.

South Inv. Opens

(Special to THE FINANCIAL CHRONICLE)

TAMPA, Fla.—Sound Investments Incorporated has been formed with offices at 608 Tampa Street to engage in a securities business. Officers are J. W. Bryan, President; J. A. Potts and J. T. Bishop Vice-Presidents; and J. B. Bryan, Secretary-Treasurer.

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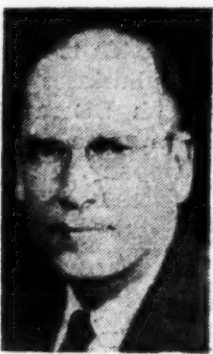
Developments in Employees Trusts And the Matter of Earnings

By CECIL P. BRONSTON*

Vice-President, Continental Illinois National Bank and Trust Company of Chicago

With over \$40 billion set aside for employee retirement plans other than social security and an incremental growth of \$4 billion, Chicago trust executive quickly reviews environmental factors at work and steps taken to offset price inflation, including collective trusts, and deals at greater length with the need for banks to improve their net earnings. Mr. Bronston cites data showing commercial banks encounter competition in fees from themselves rather than from mutual investment funds, investment counselors and insurance companies, and sets forth a four-point program to achieve fees to cover costs.

In our tremendously interesting trust business almost all of life passes before us. In the comings and goings of our customers, whether they be personal or corporate, we share in the routine and the eventful, in their joys and in their sorrows. In our work dealing with pension, profit sharing, and other employees trusts we are part of an economic, political and social movement, the ultimate course of which is yet to be determined.



Cecil P. Bronston

In one degree or another, trust officers have lived with these trusts and their progress over the years,¹ and today they are generating and carrying on many of the developments which we shall note. What I shall try to do is to review and bring into focus certain items of especially current interest.

I should like to borrow a ministerial technique and use a text around which to organize our thoughts—a dual text, taken from the respective sayings of two men who lived in widely separated times and backgrounds. Leo Tolstoy, of Russian aristocratic lineage, said: "The vocation of every man and woman is to serve other people." Jesus Christ expressed the deep dignity of service in these few words to his disciples, "The laborer is worthy of his hire." Perhaps these two thoughts, when brought together, state the philosophy of all man's business with man—the exchange of produce and service for other produce and service. In any event, we know that in this business of employees trusts we bring these two texts together in extending our service—our labor—for hire. We constantly aim to broaden and improve that service and, in so doing, to expand our pay. These aims are in the highest and best traditions of our economic system and are worthy of the best that is in us.

Specific items to note on today's horizon classify loosely into three categories: environmental facts within which our business is conducted; developments in plan benefits and service improvements; and internal developments in our business by which we seek to improve the net earnings gained from the work that we do. If I pass over or discuss too briefly of certain items in the first two categories, it is because I want to deal at length with the subject of our earnings.

The Environment in Which We Work

In the environmental area I want first to note that the assets set aside for private and public employee retirement funds, ex-

cluding Social Security, have now grown to a value some have estimated to be as much as \$40 billion, and annual additions are said to approach \$4 billion. Some estimates for the future seem to take us so far off into space that we could join the scientists in calculations of where our pension fund satellite will find its orbit. Regardless of future fancies, today's funds are of such size that A. A. Berle, Jr., writing in a pamphlet just released by The Fund for the Republic, concludes that the investments of employee funds in common stocks are "socializing" property without a revolution . . . it is one of our most amazing achievements," Mr. Berle says, and "whether one likes it or not depends on one's philosophy." For my part, I find it difficult not to like a premise which leads more and more of our citizens to become owners in our nation's businesses — owners nonetheless for the fact that their fellows are also members of the same pool of ownership.

Nor does it seem that we should be concerned unduly about "huge investment funds." Size is always relative. We must remember that pensions and profit sharing distributions can be paid only from productivity. Advance funding is a natural element in profit sharing. Advance funding of some substance is normally regarded as the mark of financially sound pension plans. Advance funding, in the aggregate, tends to make for huge investments. Such investments supply the capital—the plants, and resources—from which industry can provide the productivity necessary to the pensions and profit sharing distributions. Thus we make the circle complete and can hark back to the stated philosophy of all man's business with man: even in retirement, man exchanges produce for produce.

Perhaps our second environmental fact looms largest in perspective today. It is the matter of state and Federal legislation leading to the disclosure of information about, and the further regulation of, welfare and pension funds. Disclosure can hold little fear for us who already live in glass houses. But we certainly have a deep and abiding interest that the funding of retirement benefits will not be plagued with regulations which result in burdens of financial substance or in needless, multiple paper work.

Third, matters concerning the Internal Revenue Code and Regulations are always of interest. The Mills bill, which passed the House on Jan. 28, contains a few items of significance for us, the most important, perhaps, being the relaxation of the ban on the purchase by qualified trusts of the employer's unsecured debentures. For the most part we have settled into an acceptance of the tax advantages and the limitations of the Code, but there will always be those of us who think that improvements continue to be possible. This reminds me of what an attorney friend once said when he and others were editing and

re-editing the drafts of a trust agreement. In half-complaint, he remarked that in his 30 years or so of practicing law he had never seen a draft of a document that could not be changed. "Of course," he said, "it might not be improved, but it can be changed." Not merely changes but what are regarded as needed improvements in the Code are illustrated in suggestions made in recent hearings held by the House Committee on Ways and Means. Illustrative are 12 suggestions relating to employees trusts advocated by the Illinois State Chamber of Commerce.² Among other proposals have been those of insurance representatives who would have the law changed to permit profit sharing plans to provide annuity benefits proportionate to compensation and to permit use of group annuity contracts without intervening trusts.

Revenue Ruling 57-163 provides that the amount paid to a pensioner at early retirement age must not exceed his vested interest at that time, if the early retirement is subject to the consent of the employer. In the Chicago office of the Internal Revenue Service this ruling has caused more inquiries than any other issued in years. To avoid violation of the ruling, early retirement can be permitted in the plan without the consent of the employer, or early retirement can be omitted entirely from the plan. Plans now violative of the ruling need to be amended and, as the ruling was issued in 1957, all calendar year taxpayers must make their amendments by the end of 1958, retroactive to Jan. 1, 1958.

Fourth, we should look briefly on the progress, or lack of progress, of the Jenkins-Keogh bill which would enable self-employed persons to claim tax deductions under certain limitations on funds set aside for their retirement. Apparently the Treasury Department continues to agree with the principle of this bill but, this year, seems even more determined than ever to avoid the revenue loss which it claims would result. The bill has the support of almost all associations of self-employed people, who are now working through their recently established organization, the American Thrift Assembly. Congressional support is strong, although some apparently question whether the ceiling limit on taxable deductions of \$5,000 annually and \$100,000 for a lifetime is too high. The AFL-CIO has endorsed the bill in principle, contingent on a deduction limit of \$500 per year. This, in terms of the resulting annuity which can be purchased at retirement, is not at all acceptable to the bill's proponents. Legislation similar to the Jenkins-Keogh bill is now in effect in Great Britain and Canada. The experience of Canadian trust companies with resulting business should prove helpful to us if our act is passed.

The Impact of Union Demands

Fifth, the continuing influence on employees trusts exercised by unions is seen in the United Automobile Workers' program for bargaining in 1958. The program includes these demands relative to our special field of interest: increased and liberalized pension benefits at retirement or disability;³ periodic automatic adjustment of pensions to living cost increases;⁴ reduction of eligibility for vesting of pension benefits to five years of service regardless of age;⁵ a voice in the investment of a reasonable part of the pension reserves in housing, health, and community needs in the communities in which pension fund members reside; a sharing of pre-tax profits above 10% of capital, to be split 50% to stockholders and executives, 25% to employees, and 25% to customers; and substantial increases in SUB benefits under the contention that the adjust-

ments can be made without any increase in the companies' current rate of payments at 5c per hour.⁶ The three major auto contracts expire late in May and early June so that negotiations are in the offing.

Although the demands for increased and liberalized pension benefits are substantial in nature and the demand for a voice in investment decisions, if accepted, could turn out to be a foot in the door of the trustee's house, it is the profit sharing proposal that has received greatest attention. Let us hope that the general public will not come to think that profit sharing, as it is normally conceived and successfully practiced, is really an issue in the forthcoming negotiations. The demand of profit sharing for union members is joined in a package by which the UAW also attempts to take a hand in decisions concerning company policies and prices, employees other than union members, and dealings with customers.

So, in management's view, what has been introduced by UAW under the guise of profit sharing is merely the Trojan horse concealing invasion forces that would usurp management's functions. Dr. Edward H. Chamberlin, Professor of Political Economy at Harvard University, who helped to reorient professional thinking about business monopoly 25 years ago in his "Theory of Monopolistic Competition," now contends that labor unions have too much power and argues that it should be curbed. His recent study, "The Economic Analysis of Labor Union Power," was completed prior to the UAW demand for profit sharing, which makes this observation of his that much more noteworthy. He said, "It is more than possible that, especially with the drive for industry-wide uniformity, much that is vital to the competitive character of our economy, and which is responsible for its high efficiency, will be lost through a substantial invasion of the management field by labor, and that the public will awaken one day to find that a degree of economic control, which never would have been tolerated in the hands of businessmen, has already passed into the hands of someone else."

We are not direct parties to the struggle between auto management and auto labor. However, we certainly should be and are deeply concerned that the spirit of true profit sharing, which tends to unify rather than to separate, shall not become a casualty as a mere pawn in a battle to determine who runs the auto industry.

Changes in Plan Benefits to Meet Inflation

In dealing with our second main category—developments in plan benefits and service improvements—we note that this year has seen a further increase of interest in plans having other than fixed benefits, or in plans which attempt benefits with some offset against the decreasing purchasing power of the dollar. That profit sharing plans have been set up in increasing numbers may be attributed, perhaps, to the basic fact that profit sharing has proved itself and that its users, once converted to its advantages, tend to become deeply evangelical in spreading its gospel. Also, many smaller companies have been setting up retirement plans for which they have chosen profit sharing as a natural medium. Further, many firms having basic pension plans have supplemented them with profit sharing plans. And in some pension plan revisions the offset to inflation is attempted by basing pensions on terminal pay—most often with fixed benefits but, in some recent cases, with variable benefits.

A Look at Variable Benefit Plans

During the last year or so, with common stock prices declining and the cost-of-living index rising, variable annuity plans have been operated in an atmosphere dissimilar to anything previously experienced in their short lives. College Retirement Equities Fund, established in July, 1952, by Teachers Insurance and Annuity Association continues to be the best known and most closely watched of the several variable annuity programs in effect. Although these plans have yet to pass the test of truly adverse circumstances, so far, the CREF annuitant has fared better than the annuitant who has received fixed dollars.⁷

We all know that certain long-established insurance companies are seeking authority to issue variable annuity contracts, that others oppose the move, and that a few new companies have been formed specifically to deal in variable annuities. John Hancock Mutual Life Insurance Company seeks legislation in Massachusetts for a still different approach, termed "pension plans with special funding." If I understand the proposal correctly, the insurance company would be permitted to establish segregated asset accounts for pension plan business in which equity investments could reach a proportion of 50% or more. Benefits could be flexible in nature, but would carry a minimum guaranteed dollar return with the sponsor of the plan responsible for any deficits that might arise from adverse investment experience. Asset appreciation could be used at the sponsor's will to increase benefits, or to reduce the cost of the plan, or to gear benefits to a cost-of-living index. In Chicago, Continental Assurance Company and the American National Bank and Trust Company have joined forces in a new split-funding arrangement. The insurance company offers a combination plan through the medium of a trust with the bank as trustee, under which at least 50% of all contributions will be invested under contract by the insurance company, with the remainder to be invested in a collective investment equity fund operated by the bank. These are moves to meet the competitive advantages of pension funding by way of trust funds, and to offset in part the conversion of insured plans to trust fund plans.⁸

The Growth of Collective Trusts

This brings us to collective investment trusts—a subject that is close to the hearts of more and more of us as the months go by. To say how many trusts of this kind are now in operation would be merely a guess. I know of 32, and there could very well be from 40 to 50 either in being or in process of formation. In less than two years a few of the trusts have grown to have more than 100 individual trust participants, and certain of them have attained values totaling around \$20 million. To say the least, the investment climate of these two years has provided our staffs an interesting environment within which to launch these trusts and carry on their investment operations. To illustrate what I mean, units in our Continental Illinois Fixed Income Fund and Equity Fund, respectively, could be acquired at values to yield from lows on March 31, 1956 of 3.69% and 3.27%, to highs on Oct. 31, 1957 of 4.59% and 4.45%. As a coincidence, on Dec. 31 last, units of both funds were at identical yield points, 4.35%.⁹ In general, customers seem to be pleased with their participation in collective funds and to regard them as a definite extension of our service.

The Need to Improve Our Net Earnings

The fact that customers receive the advantages of collective trusts

*An address by Mr. Bronston before the 39th Mid-Winter Trust Conference of American Bankers Association, New York City, Feb. 10, 1956.

at no increase in cost over independent operation of their separate trusts leads us naturally into our third category—the improvement of our net earnings. In this field we persevere to learn how to do only the necessary—and that in the most efficient way—and how to set and obtain fee rates that adequately compensate us for our work and responsibilities. For suggestions in improving our operations, we can review with profit Bill Lackman's discussion at American Bankers Association's 1956 and 1957 trust panels. His remarks are timeless in his stress on doing only the necessary things, and those as simply as possible.

For the other side of the coin, it is timely that we review our fee practices. At the 1956 panel this question was asked: "What is the fee basis for pension and profit sharing trusts in Boston, New York, and the Chicago area?" The answer was: "in New York representative fees would run somewhere in the neighborhood of $\frac{1}{2}$ or $\frac{1}{4}$ of 1% on the first \$1 million, $\frac{1}{8}$ of 1% on the next \$4 million, $\frac{1}{15}$ of 1% on the next \$20 million, and $\frac{1}{20}$ or $\frac{1}{25}$ of 1% above \$25 million. . . . Generally speaking, the rates in Boston and Chicago and some of the other sections of the country are a little higher than these."

Perhaps it is reasonable to question the observation that rates in Boston, Chicago, and elsewhere are a little higher, especially if the business to which the rates are to be applied is a subject of national competition. It is a fact that New York rates are controlling in national business and, as a natural result, are strongly influential in that business which is more local in nature. However, our rate structures and fee practices across the country are of such pattern that we may all be said to be in the same boat. Although some may occupy the upper decks, and some the lower, all are subject to the same winds of operational costs and the same waves of competition.

1956 Survey

In 1956, according to the annual survey of the Federal Reserve Bank of New York, five large commercial banks had average costs in their employees trust business of \$1.15 for each \$1.00 of fees collected. Although there is no direct correlation between the fee rates just quoted and the survey results, presumably the reported income of the five banks was produced from such pattern of fees. Hardly the evidence of a happy condition, is it? Nor is the condition measurably better if, because of internal accounting treatment of tax credits and allowance for earnings on cash deposits, the business showed a slight profit. The fact remains that under such a fee pattern hard work was done for less than its cost. Because the figures stated are an average of the five banks, the chances are that some did better and some did worse than others. No doubt the same would be true if all of us were to compare our banks on the same basis. And where we stand might well depend on the accuracy of our cost analyses and cost allocations.

In any event, if we assume that we have done all possible to carry on our operations as economically as is consistent with quality performance, it then becomes fair to consider whether our fee schedules should be adjusted. However, before we think of adjustments, the factor of competition should be examined. What is that competition which has kept us on a fee basis that produces net losses or barest profits for our services? Who is it that invests and manages pension and profit sharing funds at prices lower than ours? Does this competition come from mutual investment funds, from investment counselors, from insur-

ance companies? Hardly. Based on 1956 figures, comparisons show that for a \$5 million fund the banks' charges based on the fees quoted would be only 40% of the average investment management charges of the lowest three from six of the top-ranking, best known mutual investment funds; that the banks' fees would be only 57% of the average investment expenses incurred by the lowest six of 12 leading insurance companies writing group annuities; and about 70% of the typical charges made by investment counselors.¹⁰ This comparison shows that the true competition banks encounter is engendered by and among the banks themselves. Further, it shows that the banks' typical fee pattern is so low that substantial upward adjustments can be made without adversely affecting the relative competitive positions, or jeopardizing the trust fund method of pension funding. Thus the problem rests on the doorsteps of the banks and all of us are faced with it.

Assuming that we know our costs accurately and that, for the moment, we can disregard all competition except that of and among ourselves, what shall determine the rates of our charges? As a star in the sky to set the course of our thinking of earnings ratios, we might consider what earnings, over costs and taxes, are necessary for our respective banks to pay their current dividends to shareholders and set aside reasonable sums of security and growth. The ratio, so developed and applied to our costs for handling employees trusts, may possibly be out of immediate reach as a goal. But, when compared with similarly calculated ratios in other banking and trust operations, it will help us set a reasonable objective.

Our Fees Should Be Realistic

To attain whatever goal we do set, our primary source of income must be our service fees. From this source we must obtain the sinews and competence to serve our customers as they deserve. As we must stand and deliver, so should this business of employees trusts stand on its own feet and support itself, free from carriage by any commercial balances or other banking relationships of its sponsors.

Now, on that premise, what can we do about our fee schedules? We can classify our activities, cost-analyze them as closely as possible, state our schedules in terms of the duties and responsibilities we bear, and try to relate our rates to our costs. Growing from the necessity of correcting the present sorry fee structure, a number of banks are currently reworking their fee patterns in terms of basic services and supplementary services.¹¹ Fee schedules so devised can, in effect, meter the activities of a trust so that the customer will pay for services used—no more, no less—in a fair arrangement for customer and bank alike.

We can improve our earnings. To do so we need, first, the will; second, an approach in the dignity of the premise that the laborer is worthy of his hire; third, unity of purpose within our respective banks under which we have the support of our managements and our commercial banking associates, who can be and frequently are our best champions; and, finally, the courage of our convictions that this business of employees trusts is worth the effort to make it truly profitable. Improvement is, in fact, the *quid pro quo* to meeting the demands upon our trusteeship. Pension and profit sharing trusts are set up in form to endure in perpetuity. In these trusteeships we are stewards of the long future for countless, successive numbers of our fellow citizens. Sums of all sizes are committed to our care and marshaled through us into pro-

ductive dynamic investments to the benefit of our economy. For all this we need to be wise in our policies and sound in our practices, and we need adequate pay that we may be strong to carry our stewardship down through the years. Our vocation is to serve. To paraphrase an advocate of another day, "May we walk worthy of the vocation wherewith we are called."

FOOTNOTES

1 Few banks administered many pension or profit sharing trusts, other than their own, prior to 1935 or so. Perhaps that year approximates the beginning of the modern era of this business. However, its genesis can be related back to 1928 when Congress first included in our income tax laws specific incentives to encourage employers in making provision for the old age security of their employees. Since that time, few years have passed in which it would have been impossible for a person to discuss the developments in pension and profit sharing plans without the opportunity to emphasize some new factor or a fresh angle of an older factor. In the 1930's three facts stand out: group annuity funding of pensions held a singular advantage in that the tax law placed no limitation upon the employer's tax deductions for past service benefits acquired through that medium; the year 1937 saw Social Security legislation become effective, to provide subsistence pension coverage for a large part of our population, and collaterally, to stimulate private industry to think in terms of providing systematically for the old age of its own people; and in the latter part of that decade the Vandenberg committee of the Senate carried on a constructive survey of experiences in profit sharing and possibilities of incentive taxation which focused attention on all phases of the problems of workers' retirement, with special emphasis on the solution by way of profit sharing. Probably the most far reaching development occurred in the war years when the Revenue Act of 1942 effected its sweeping realignment and regulation of employee benefit plans. These years also saw a great stimulus to the establishment of plans resulting from these four factors: excess profits taxes on corporations; competition for the short supply of personnel; limitations on compensation of employees under wage and salary stabilization regulations; and the onset of burdensome individual income taxes making it difficult, if not impossible, for individuals to set aside adequate retirement savings on their own. Postwar, the Inland Steel decision established the principle that pensions are compensation and, therefore, proper subjects for collective bargaining. This decision solidified labor's position and has formed the base for its rising influence over the form and content of retirement plans. Three other major developments witnessed in this decade were these: the great growth of trust funds as the preferred medium for funding pension and profit sharing plans, including, in the process, the revision of many plans theretofore otherwise funded; the use of common stocks for the investment of substantial parts of these funds; and the introduction of variations in insurance company contracts designed to match the inherent flexibility and other advantages of trust funds to such extent as the insurance structure would permit.

2 The three recommendations of most general interest were these: (1) That a plan might "qualify" if the contributions or benefits provided do not "substantially" discriminate in favor of the more highly compensated employees and that, in determining whether discrimination exists, the Commissioner may consider benefits provided outside the plan for employees excluded from the plan; (2) That specific provision should be enacted defining the status of supplemental unemployment benefit plans and certain other plans with respect to such matters as the deductions by the employer, taxability of the trust income, and the taxation of distributions to employees; and (3) That in qualified employees trusts, a prohibited transaction will be deemed to occur only where a loan is made to an employer on terms and conditions more favorable than can be obtained from disinterested third parties.

3 A retirement benefit rate increase of 25 cents to a new rate of \$2.50 monthly per year of service would cost from one cent to one and one-quarter cents per hour.

4 Little immediate cost impact but, long-range, could be expensive.

5 Presently age 40 and 10 years of service, with benefits payable at normal retirement age.

6 Current five cent rate is more or less temporary in that it is payable only until trust funds reach a stated level. Nineteen fifty-eight demands could convert it to permanent five cent rate.

7 John Fralick concludes in his 1957 Graduate School thesis: "Essentially, the variable annuity is a manifestation of the growing acceptance of common stocks for conservative investment purposes. A trustman, believing that preservation of purchasing power is the goal of conservative investment, finds it difficult to take other than a constructive view of the variable annuity."

8 Naturally, the form a conversion takes depends on the type of the insurance contract involved. In the case of individual policies, two methods are used. In the simpler method the policies are surrendered and the proceeds taken into

the trust fund. In the other, paid-up policies are retained, either as a part of the trust fund or apart from it, and the benefits from the policies and the new trust fund are integrated. When the policies are so retained they can usually be considered as a fixed income investment in setting the investment program for the trust. In a group permanent policy the stated cash value may or may not be available to a successor trustee. If it is, the cash is deposited in the trust but, if not, the policy can usually be negotiated into the form of deposit administration, with ensuing benefits to be paid first from the insurance fund, and with all future contributions to go into the trust fund. The standard group annuity policy usually has no cash value and the only alternative to retention is to have the policy changed into a deposit administration contract by negotiation with the insurance company. Deposit administration contracts are least frequently converted as they approach the trust fund in some respects, although still subject to the insurance companies' investment limitations and expenses not found in a trust fund plan.

9 Upon entry, participants tend to increase their use of common stocks, presumably because no natural medium had been open to them to obtain thoroughly diversified holdings before they were able to acquire units in the Equity Fund.

10 Management charges of the six mutual investment funds averaged approximately one-half of one percent of the principal value—\$4.82 per \$1,000. The comparable figure for the lowest three of the funds was \$3.73 per \$1,000. Investment expenses of the 12 leading insurance companies writing group annuities averaged \$3.70 per \$1,000. The median for all 12 companies was \$3.30 per \$1,000. The average of the lowest six was \$2.60 per \$1,000. The figures for the mutual funds and insurance companies are constant as they are the same for the last \$1,000 invested as for the first. Typical investment counsel charges per \$1,000, including fees paid through the counselor for custody of securities, and fees developed by the quoted schedule for banks were respectively as follows: \$10 million fund, \$1.83 and \$1.08; \$5 million fund, \$2.16 and \$1.50; and \$2 million fund, \$3.16 and \$1.87.

11 In general, basic services would seem to be those which involve invest-

ment management; care and custody of assets; accounting for cash and securities by periodic statements; annual lists of assets for actuarial use; annual tax reports for the trust; and the distribution of benefit payments or pensions in bulk sums, with actual disbursements to pensioners to be made by an entity other than the trustee. In setting the fees for these basic services distinction needs to be made in the rates applicable to the various classes of assets. Costs vary in handling bonds and stocks, mortgages, real estate fees and leasebacks, and other varied types of assets, and rates should vary proportionately. And here a question can be posed: In the upper brackets of a very large trust, at what rate is it really economically possible to assume the investment responsibility and physical care of bonds and stocks? Supplemental services for which additional charges become proper are these: consultation with individuals involving their detailed approval of investments; issuance of audit-form annual reports; direct benefit disbursements involving maintenance of a roster, and preparation, issuance, and payment of checks along with the myriad other duties that are natural to this activity; accounting for shares of individual members of profit-sharing trusts and issuance of annual individual statements; and, as a possible new duty on the horizon, activities in the registration of trusts or the disclosure of information and preparation of statistical data and statements for use in compliance with regulations of state or Federal authorities.

Washington Planning Corp. of Florida Formed

PENSACOLA, Fla. — Washington Planning Corporation of Florida has been formed with offices at Town and Country Place. Officers are Matthias B. Gardner, President; Willard R. Wolfenbarger, Vice-President; Troy V. Post, Jr., Secretary-Treasurer; Robert H. Gorman, Assistant Vice-President; and William H. Hamilton, Assistant Secretary-Treasurer.

1957... another year of solid accomplishment for American Encaustic

NOTEWORTHY EVENTS IN BRIEF:

INCREASED SALES made 1957 the largest sales year in the Company's history—a 17% increase over 1956.

EARNINGS rose for the fourth straight year—24% over 1956. Per share net amounted to \$1.87 versus \$1.50 a year ago.

DIVIDENDS continued at 70 cents a share—15 cents quarterly plus a 10 cent year-end extra. In addition, the Company paid a 4% stock dividend in December.

SALES PRICES Unit selling prices of American's products have not been increased during the past three years, despite three annual increases in salaries and wages, and generally higher manufacturing costs.

OUTLOOK FOR 1958 Capacity operations are expected to continue into the foreseeable future.



A copy of the 1957 annual report may be obtained by writing the Company, at Lansdale, Pennsylvania.

"America's Oldest Name in Tile"

**AMERICAN ENCAUSTIC
TILING COMPANY, INC.**

Lansdale, Pennsylvania

Continued from first page

As We See It

some foreign countries where public service was (or is) a profession.

But let us not mistake the nature of these infirmities, the causes from which they spring or the courses of action which can be depended upon to remedy the situation. Relentless exposure—if it can be attained—and vigorous legislative or administrative action might well have an appreciable temporary effect upon a situation of this sort, reducing the extent and possibly the seriousness of offenses for a time. Real and permanent relief must, however, be sought elsewhere, and if it is not sought elsewhere and the proper courses of action taken, we can count upon a permanent continuation of the troublesome and costly state of affairs about which we now hear in guarded terms from those who know what is going on. It is always futile to ask for better bread than can be made of wheat.

The Real Trouble

So long as we retain the massive bureaucracy we now have built up in Washington and so long as we commit to its tender mercies so much of what we should be leaving to natural forces, just so long shall we suffer from the inevitable infirmities of the system, some of which are now coming to light and much more of which lie but slightly below the surface. Even if we had through the decades developed a professional public service as had some of the European countries before the eruptions of the past few decades, we should still suffer the inevitable consequences of asking governmental officials to do for us what we should do for ourselves. But in this country custom permits, not to say requires, that much of this massive bureaucracy be manned by political figures who act as politicians when they are in office. The result is and always will be little short of disastrous.

What these disclosures in Washington should do for the country is to start the rank and file to thinking about the extreme vulnerability of the nation to weak, not to say evil, personnel in government, a vulnerability inseparable from massive bureaucracy. When one surveys the situation as it exists today, and makes comparison with what we had known prior to the rise of the New Deal, the change is all but incredible even to seasoned observers. Of course, bureaucracy had its beginnings long before Franklin Roosevelt went to Washington. The Interstate Commerce Commission dates from a point in time almost half a century before the election of Roosevelt. The Federal Trade Commission goes back to the days of Woodrow Wilson. So also the Tariff Commission.

We really surrendered ourselves to bureaucracy, though, under the persuasive leadership of President Franklin Roosevelt in the 'Thirties. One of the first of the agencies created by the New Deal was this same Federal Communications Commission, which was given the task of supervising, controlling, and in some measure directing the communication systems of the country, including the telephone, telegraph, radio and television industries. A great deal of rather detailed control, licensing and the like is now in its hands. More possibly than in any of the other agencies the situation here is made to order for the sort of thing that has recently been revealed. Some members of the Commission have been reported as insisting that the trouble is not with them but with the system—and in one very important sense they are unquestionably correct.

The Federal Power Commission dates back to 1920, but its scope was enormously enlarged and its potentialities for injury to important lines of business tremendously broadened by the New Deal. The Federal Waterpower Act, the Tennessee Valley Authority Act, the Bonneville Project Act, the Fort Peck Project Act, and the Natural Gas Act, each broadened the responsibility and enlarged the power of the Commission. As yet so far as known, none of the members of this body is under fire particularly in current Congressional inquiries. They may have lived impeccable official lives. But they are human, and only a devout exponent of managed economy would or could believe that it is necessary or advisable to place any group of men in the positions these individuals hold.

The Worst of the Lot

Of course, the Securities and Exchange Commission is a creation of the New Deal which time and again has broadened its duties and its powers to include not only the securities business as such but public utility holding companies and related matters and investment companies and advisers. It is doubtful if there is any agency in Washington which has under its wing such varied and such

vast segments of business, or holds greater powers of life or death in its hands. It is in some respects at least essentially the most un-American of all the organs of the New Deal. The harm this agency has already done would be difficult to estimate. What it may do in the future should be the concern of every thinking citizen of this country.

Space does not permit further listing of individual agencies which together now constitute this massive bureaucracy, the burden of which we now carry on our backs. Horribly burdensome it would be in the best of events. If, as is now becoming evident, small men, sometimes weak men, and doubtless sometimes evil men, man these agencies the situation is by so much the worse. We should lose no time in getting back to true Americanism in government. Only that can save us.

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Semiconductor Industry's Outlook And Electronic Industry's Future

flow is not through space, but controlled in the solid itself, hence eliminating the expensive requirement of getting the electrons into space where they can be controlled easily. Thus the most troublesome and expensive process in a vacuum tube has been eliminated. Perhaps you wonder why so much emphasis is put on the power required to heat the filaments of a vacuum tube. True, it does not cost very much at the end of the month to pay that part of your electric bill used in heating the filaments of the tubes in your radios and television sets. This power costs roughly a penny a kilowatt hour, but if you want this same power from flashlight cells, it will cost you \$10 a kilowatt hour just so you can carry portable power in your pocket. It was this reason that spurred the use of transistors first in hearing aids where all of the power must be carried in your vest pocket. That power costs ten-thousand times as much as the power from your wall receptacle.

Evolutionary Period

These were the things which led the scientific world to feel there was an electronic revolution in the offing. Actually we have had and are going through an evolutionary period instead. The first transistors produced fell far short of their theoretical capabilities. We had much to learn about how and why. We learned fast nevertheless, for by 1953, only five years after the device was first announced, the first glimmerings of transistor mass production were seen. In that year the infant semiconductor industry produced about 600,000 transistors worth approximately \$3 million. The only production use of these transistors were for hearing aids. Sales of diodes and rectifiers, which have practically all of the same features of transistors, added to that of transistors, brought the total semiconductor industry's sales in 1953 to \$10 million. The years 1954 and 1955 were characterized by two major features, wide scale sampling of transistors to engineering design groups and heavy research and development efforts by semiconductor manufacturers to improve the product and their ability to produce it. Although the number of transistors sold in 1954 tripled those sold the year before and tripled again in 1955, it was not until 1956 that a marketing breakthrough of significant proportions occurred. For in 1954 and 1955 the market was mostly characterized by increasingly widespread interest in trying out the new devices in circuits. No significant use of transistors occurred in mass produced equipment. However in 1956 transistor portable radios made their first mass appearance and met with almost instant demand. In 1957 transistor portables started with 30% of the market and are now obtaining 60%, a

figure which is expected to reach 80% in 1958. That year, 1956, we in the industry tripled our output again making about 13-million transistors worth some \$37½ million.

Several things had happened between 1953 and 1956 to make all this possible. Hermetic sealing of transistors, first introduced by General Electric in 1953, became a standard of the industry. This had the effect of tremendously increasing the reliability of the devices so that close to the theoretical life of the transistor is now realized. Hermetic sealing of transistors, keeps the vital, super-pure germanium and silicon from becoming contaminated and thus unable to "transist," which would cause instability and finally failure. At the same time our research laboratories were succeeding in telling us more of the things we needed to know about the critical semiconductor materials themselves, and the things that affect them. In addition, several new processes for producing the devices were invented allowing us to reproduce better the same characteristics in groups of transistors.

The first basic process discovered by Bell Labs involved the growing of a pair of junctions in a carefully controlled single crystal—then cutting them up into individual transistors, a hundred or so to a crystal. General Electric developed the "rate growing" process whereby a number of barriers are grown in a crystal yielding several thousand transistor elements.

The alloy junction process, where the junctions are formed or alloyed on each individual transistor, was also developed in the General Electric laboratories. This process, more adaptable to mechanization, has been responsible for over 75% of the transistors produced to date.

The diffusion process developed at Bell Labs is just beginning to have commercial application and although difficult to control can produce higher power and higher frequency than the other known processes.

There are also combinations of these processes such as grown diffused or alloy-diffused which have advantages in performance and cost for some market requirements.

While the use of transistors was growing rapidly, sales of their sister mass-produced devices, diodes and rectifiers, were also growing rapidly, and for the same reasons. Sales of these components grew from \$7 million in 1953 to roughly \$40 million in 1956.

Mainly, semiconductor rectifiers have been used to replace other means for changing AC current to DC current. Along with the transistor they are competing for a part of the electron tube function. But in addition they are also competing with selenium, copper

oxide and other types of dry rectifiers. Like transistors, semiconductor rectifiers are small, have virtually unlimited life and achieve very high efficiency ratings in circuits.

Semiconductor products actually got to market earlier in the rectifier business than in the transistor business. Outside of the obvious electronic equipment uses, new solid-state rectifiers have gained wide acceptance, particularly in the chemical industry, but have been slower in breaking into another area where they should eventually have great importance: transportation. A major problem in electric transportation is the proper balance between the efficiency of DC power transmission and the advantages of DC motors for high starting torque. Semiconductor rectifiers offer the promise of letting the electrical transportation people have their cake and eat it too. During the past year, germanium rectifiers have been in service in an electric commuting train in England. The reports to date are encouraging.

A New Development

One can look forward to developments in another direction: just as the vacuum tube diodes and triodes developed into the many specialized multi-element tubes of today, so will the relatively simple rectifier that we now know, lead to more complex structures in the future. Of particular interest to us today is a device comprising more than two rectifying junctions. Such a device, called a controlled rectifier—or three electrode rectifier—has recently been developed in the General Electric rectifier engineering laboratories at Clyde, N. Y. Basically, what our engineers have done is to build some prototype samples of a semiconductor device, using silicon which will perform the same function as the gas thyatron. Scientists at practically every research laboratory throughout the country have said this was possible for several years, and several devices approaching a controlled rectifier have been made. What we have done is build some devices able to handle enough controlled power to satisfy many military and industrial applications.

As far as I know, this is the first time it has been done successfully. Although the development is still in the laboratory stage, our engineers are moving quite fast on it and expect to have samples available for equipment designers in the next few months. Quantity production probably will get underway next fall sometime. Some may never have heard of a gas thyatron or what it can do and therefore have little notion of what a semiconductor thyatron or controlled rectifier means. A simple 2-electrode rectifier changes alternating current to direct current. Basically, with one rectifier, you can get one-half of the alternating current put into the circuit, out in the form of direct current. But you cannot practically vary the amount of direct current coming out. This is set once and for all by the circuit design.

There are several expensive mechanical means for varying the amount of work done by this direct current output, among them are gear systems, step down transformers, rotating amplifiers, and voltage varying devices. Gas thyatrons can do the job electronically and eliminate the complicated and expensive other methods, but thyatrons are too big and too temperature limited for many applications. Also, they have the same life limitations as other electron tubes. The controlled rectifier or semiconductor thyatron on the other hand is small—about 1/100 the size of equivalent gas thyatrons and like other semiconductors has a virtually unlimited life. Where

thyatrons are temperature limited to 90°C, our new controlled rectifier will perform at 150°C and possibly even higher than that.

Probably the biggest use of these new controlled rectifiers at first will be in military equipment, and industrial machinery. They undoubtedly will find wide use in replacing "latching-type" relays in circuits for switching power. They will turn on and off in one and a half millionth of a second and can be used to vary the amount of power needed to control the speed of motors or to control the intensity of lights in a theatre. Thyatrons or magnetic amplifiers now do a large number of these jobs. The controlled rectifiers we have seen so far can switch and control a load of 200 volts and 5 amperes or 1.5 kilowatts of power with only 15 milliwatts injection at the control lead. This is a control ratio of 100,000 to one. In addition to the previous applications I mentioned, we expect that the controlled rectifiers will be used by the military in place of some power transistors, in guided missiles for example, where power transistors are being used as switches to convert low voltage direct current from a battery to either high voltage alternating or direct current.

Other Possible Uses

Other potential applications for the silicon controlled rectifier would, of course, include automatic machinery or popularly "automation controls," where the speed of motors is controlled by computers, punch cards or magnetic tape. This motor control must be accurate, fast and dependable.

In commercial welders, the silicon controlled rectifiers can be used to control the amount and rise and fall of current flow which in turn controls the quality and uniformity of the weld. Eventually they may be used extensively in the home in kitchen food mixers, electric stoves, home weather-conditioning equipment and lighting controls. This new device gives us the capability of extending the use of simplifying, long-life electronic circuitry in many new mass markets that were previously closed because large, power consuming, short-life electronic components were the only ones available.

The Function of an Electronic Component Manufacturer

Aside from the heartening prospects for selling semiconductors themselves, I believe industry's growing interest in this field of science is in relation to what industry needs for itself in addition to what it will sell to others. It is not appropriate here to enter a discussion of the economics of "automation." But those who have made the most careful studies of tomorrow's population trends and production requirements describe automation not as a problem of the future but rather as the only solution to a problem of the future. Suffice it to say that almost every industry will become increasingly dependent on—and interested in—automation. Much of industry's interest in solid-state science is related to the importance of solid-state devices—like semiconductors—to automation.

A key function of electronics in automation is control, and the key requirement for control elements is reliability. Semiconductor devices give every promise of providing the ultimate in long life, reliability and low maintenance that will be required if automation is to be a dependable servant instead of a sick relative requiring constant nursing and medication. Semiconductor devices are the first active electronic components which do not have a determinable life. That is, they do not start to wear out as soon as they are put in service. Thus we

can use equipments incorporating these devices with confidence in mechanization for the factory and office. At present the personnel and cost required to maintain such equipment is a deterrent to more rapid growth. With semiconductors we can visualize equipment built up of plug-in assemblies which can be changed as easily as light bulbs, in case of failure.

As pointed out earlier, the key function of electronics in mechanization and automation is control. Included in control—whether of a chemical process, control of a manufacturing operation, control of inventory or of distribution—are three functions—(1) sensing the actual state of affairs, (2) processing the information so obtained with such aids as computers and instructions stored in memory devices and finally (3) the execution of the control. For all of these control tasks, semiconductor devices are being developed at an ever increasing pace.

"Building Block"

The manufacturer of an electronic component performs a unique function. His product is not only "the building block" from which electronic equipment is made, but also controls what ultimate practical use can be made of that equipment. The resulting piece of equipment can be no better than the individual "building blocks" of which it is composed. Limitations of the component are directly transferred as limitations of the equipment itself. For example, the reliability of a particular piece of electronic gear is directly determined by the reliability of the components which are incorporated in it. You cannot get greater reliability than the lowest reliability factor of any of the mass of components used. You can get worse by poor equipment design but no better by good design.

For example, in one-shot devices, such as a guided missile, the reliability of electronic components is highly stressed. If an electronic component in a missile fails after the missile has left the ground, there is no chance of replacing the defective component. In addition, the failure of a single electronic component could mean that the missile would go off course or become otherwise useless.

The components used in building electronic equipment do more than just determine the reliability of the equipment itself. They also obviously determine such factors as size, shape, power needed and through these factors, where and how extensively the equipment can be used.

But manufacturers of electronic components on whom the equipment manufacturers must depend in determining the character of their equipment and thus their markets, are dependent themselves on basic research for the kind of components they can make. Research basically gives us new and better components and tells us how to make them. The future products, that research shows us are possible, are destined to keep the whole electronic industry alive. Without this basic research, we can shuffle existing components for a time and come up with some new equipment but within a short period the possibilities will become exhausted and the industry will start to "dry up."

The growth pattern and shape of the electronic industry was and still is basically determined by the characteristics of the electron tube. This invention by De Forest marked the birth of today's electronics business. Continued improvements in the basic active component in a radio, the tube, made them more acceptable to the buying public and sales increased. When radios became small enough, through further improvements, we

put them in cars and had 2-way radio. Then came World War II with even greater research and development efforts on improving electronic components, and we had radar, TV sets, and even electronic controls such as automatic pilots and remote guidance systems. So we see that until the more basic electronic components were invented or further improved, the industry was limited by the components themselves to the various markets it could serve. The advantages of electron tubes spurred equipment manufacturers entry into some markets while the electron tubes' limitations kept them out of others. Now we have the family of semiconductor products which will do a lot of the jobs electron tubes will do, but do them better. More importantly, however, semiconductor components which are the fruits of research and development money, are freeing the electronic equipment industry from many of the market restraints imposed by electron tubes.

We fully expect that within the next decade better than 50% of the transistors produced will be used in equipment made possible only by their invention and subsequent development.

Problems Facing the Industry

However, before we see the fruition of these components which can set the electronic industry free from previous restraints, there are a number of hurdles.

Because the electronic component manufacturer delivers more than hardware to the door of his customer, he has grave responsibilities other than building a good product today. He must also have a determined policy of plowing money back into the business for the future. There are two principal areas for this continuing investment. These are basic research and development of new products and a continuing program of mechanizing the factory to deliver the increasing volume required.

Both of these must be included in the cost of today's devices, but both contribute to better components at lower selling prices tomorrow.

The semiconductor industry will only grow as the pricing of our products becomes competitive with other, older methods of doing the same thing. There are problems in our way to doing this. The semiconductor component manufacturer is considerably different from all other electronic component manufacturers. First of all, unlike the others who produce their products mainly by shaping raw materials, the production of semiconductors combines the sciences of metallurgy, chemistry, electrical engineering and the newest of sciences, solid state physics. Secondly, the exotic things we do to standard materials are done at tolerances of up to two or three molecules. Standard tolerances are measured in 1/10,000 of an inch. We must use these same standard materials purer than anything seen before and we must maintain this level of purity throughout our manufacturing process. As one of our scientists has put it rather neatly—the level of impurities is the same as one counterfeit dollar in the United States Treasury. At the same time we must turn out our products at the rate of a button factory. No standard machines or processing patterns exist. All must be devised. And this takes time and money—a great deal of both!

Semiconductor technology today is moving at a furious rate. Today's mechanized equipment and processes, which cost hundreds of thousands of dollars to develop can be obsolete within a year. Even the technology for designing the equipment is new. The penalties for making the wrong decisions on which parts of the

manufacturing line to mechanize, which potential products to develop when practically no methods are available for researching the potential market, and which new manufacturing processes should be developed can be disastrous.

The demand of our customers for ever better components in volume at a low price is enormous. And naturally so, because they can see the present markets for their equipment expanding, the potential markets opening up and the rich rewards ahead.

For those semiconductor organizations which can meet the demand and supply the quantities required when required there will be rewards for themselves as well as all of industry.

Obviously no one single organization can be a full line supplier of the myriad semiconductors required in the various markets. We at General Electric are not, but we believe we are closer than anyone else.

One of the major "nuts and bolts" problems which has been holding the semiconductor industry back from an even faster expansion than its meteoric rise has been a lack of standardization. A milestone in the transistor business was achieved this year when practically the entire industry adopted a standard signal transistor housing having a standard base lead arrangement and overall dimensions. This housing meets the requirements of a broad segment of the electronic equipment industry by allowing the equipment manufacturer to standardize on other parts he needs to build his equipment. In addition, several manufacturers of transistors are beginning to produce identical transistor types. In other words, a second source for several transistor types is becoming available. This again is essential for the industry's healthy growth since few of our customers, the equipment manufacturers, want to tie themselves to one component source.

But the primary and continuing problem confronting the industry today is putting enough money in the research and development needed for the products and methods of tomorrow. The industry must recognize that investment in future products and processes is a cost of staying in business.

Predictions

The future potential for semiconductors looks almost unbelievable. From the 1957 industry total semiconductor sales figure of \$140 million, we expect the industry will increase sales seven fold to \$1 billion annually by 1967. For 1958 we expect an industry increase of 33% from \$143 million to approximately \$200 million.

As an example of what this means, this year we expect the industry will sell about \$70 million worth of transistors. These transistors will be used in only a little over 12% of all the electronic equipment sold which is valued at \$6.9 billion. Our markets analysts predict that in 1967 the total value of new electronic equipment sold will be around \$12.5 billion. Transistors will be used in better than 80% of it. We feel that the use of transistors and other semiconductors will in large part make that expansion of the electronic industry possible.

But the growth of our semiconductor industry in serving the overall electronic and electrical industries will not be easy. We will be growing and maturing at a rate three times as fast as that achieved by the electron tube industry. The pattern of our growth will probably follow theirs. If it does, the heavy development and reduction to practice of making our products is now taking place in the decade

from 1950 to 1960. Real mass production, mechanization, (or automation) and broad customer acceptance may be expected from 1960 on.

The next three to five years will undoubtedly be the most crucial and difficult in the industry's experience. Heavy competition is developing in the industry because mass markets are opening up. The key to the future for each individual company will be the ability of its management to chart the right course for itself. It seems elemental that the prices of semiconductor products will come down steadily as production goes up. Some types of transistors may be selling in the vicinity of 35 cents each in the next 10 years. But the overall range of semiconductor prices will probably be quite broad because we will be selling semiconductors for use in everything from toys to missiles. Thus an average price (which figures to slightly over \$1) in 1967 is meaningless. But semiconductor prices will be competitive with other methods of doing the same thing because they must be to achieve the expected growth. The era of uniqueness of our products is pretty much gone. Today we are more and more selling to the purchasing agent rather than the electronic design engineer. Performance is virtually taken for granted. Price and production are more the determining factors. These are also key management decision areas for each company in the business.

Today there are about 40 manufacturers in the semiconductor field. Few if any new faces are being seen. Already, we have seen some withdrawals on the part of those who thought the semiconductor business was a get-rich-quick-scheme and found it wasn't. There undoubtedly will be more companies either getting out of the business as the result of poor management guesses or becoming low volume, specialty concerns. This was and is the course the tube business took. In 10 years there may well be only a few full-line or nearly full line suppliers and a dozen or so specialty manufacturers. For the volume we see for the industry—on the order of 500 to 600 million units a year—Detroit-type production lines are necessary for the large manufacturers. Building up to that size annual volume in such a short period will have its effect on immediate profits because in addition to buying the volume producing machines, heavy investments in research and development on the machines will also be necessary. Not only will the machines have to be new in design but they will also have to be new in concept. In addition heavy expenditures in research and development will also be necessary for new products just to stay even with the board.

This does not mean that semiconductor business currently operates at a loss—but much of the potential earnings must continue to be put back into the business.

It looks now as if future uses of semiconductors are only limited by the imagination. There are already many electronic equipments being produced which were impractical before and only practical now with semiconductors. No one of these is world-shaking but the trend is significant. Certainly automobiles, home appliances, machinery—both office and factory, and military equipment will be better for the advent of semiconductors. It is possible that the use of semiconductors will so broaden the use of electronic circuits that the electronic equipment industry of the future will be unrecognizable as such.

Continued from page 3

Glimpses Ahead for Electronics

techniques relied upon vacuum tubes. Now, semiconductor devices are rapidly taking over for many applications. Moreover, these devices are achieving hitherto unknown results.

A broad range of useful and potentially useful phenomena have been brought within our reach by the electronically-active materials. In the semiconductors, we influence conductivity by applied voltage, by radiant energy, and by electron bombardment. In new ferromagnetic materials, we induce and control magnetism to fashion permanent and nonpermanent magnets of high efficiency and light weight. We obtain many of these same effects with new ferroelectric materials. These operate by the application of voltages rather than by the setting up of magnetic fields. With new electroluminescent materials we can convert currents in the solid directly into visible light. We achieve by controlled inhomogeneity within a single piece of material multiple effects that previously required complicated equipment or a combination of single-effect devices.

Each new development in electronically active materials carries us further toward extreme economy of power and space, combined with greater sophistication in functions that can be performed. Thus an increase in functional complication, such as we have only dreamed of previously, now is becoming an economic reality. There are two major results: increased utilization of present types of electronic equipment because of decreased size and complexity, and new applications for newly conceived apparatus that were never before economically feasible.

Just as we are achieving dramatic advances in electronics with the development and application of new materials, other important areas of our technology are progressing rapidly along similar lines.

Important new materials have been developed primarily to withstand high temperatures under stresses well beyond those at which earlier conventional materials fail completely. Applied in jet and rocket engines, these new compounds and alloys are opening a new era in aviation and missile technology.

Study of the effects of nuclear radiation upon the properties of various materials is showing us how to alter substances in order to increase their utility. As our understanding of radioactive phenomena is broadened through continuing research, we may expect fruitful results in this area from the treatment of many materials, including our electronically-active solids.

At every turn, we can find evidence that modern technology is more and more a result of the revolution in materials, whether we think in terms of electronics, of transportation, of construction, or of weapons technology. This is a self-perpetuating revolution, and one that continues at an ever-quicken pace. With each new material, we advance upward to a new level of performance in a given field. Having reached this new level, we encounter a barrier which must be overcome by the development of another, better material.

This is an area in which our opportunities are virtually unlimited. Nature has supplied us with about 90 different atoms, and man has fabricated about a dozen more. These may in turn be united to form an almost infinite variety of materials. Furthermore, the compositions and properties of these materials may be selected to order for performing specific functions.

In this brief discussion of ma-

terials, I have indicated the base upon which we are building our new technology. The building process itself has presented us with a major challenge that has called for a change in our working methods.

Systems Engineering—A Growing Concept

Our challenge has been the task of adapting increasingly complex devices and techniques to the requirements and limitations of the people who must use them. Our response has been an increasing reliance upon the comprehensive and logical concept of systems engineering.

Systems engineering is basically a method of going about our business. It involves a determination of the objective that is to be reached, and a thorough consideration of all factors that bear upon the possibility of reaching that objective, and the relationships among these factors.

Admittedly, this is not a new practice. What is new, however, is our appreciation of its universal value as an effective method for solving the difficult problems raised by today's complex undertakings in the technological field. We now recognize systems engineering as a discipline. As such, it has a set of rules affecting its conduct, it requires people with specialized training, and it calls for substantial changes in our research and engineering organizations.

The systems approach as we now practice it is broad in scope. It crosses the boundaries that have separated the various academic disciplines, that have separated research from engineering, and advanced development from product design and marketing. It is fully cooperative, involving people and functions that might appear at first glance to have little to do with one another. It is characterized frequently by compromise, requiring sacrifice in some details for the sake of achieving a practical system. It is thorough, calling for examination by the systems engineer of every detail that bears upon the functioning of the complete system.

An integral part of the systems approach is the related discipline of human engineering. In this area, we deal with the all-important question of human limitations, finding our solution in techniques which will place a minimum burden upon human mind and muscle. A lack of proper human engineering can be costly or catastrophic. Proper consideration of human engineering factors can, however, provide the margin between success and failure.

Any systems project calls for teamwork among individuals of varied scientific and technical skills. In such a group, there may be physicists, chemists, mathematicians, electrical engineers, aerodynamicists, psychologists, mechanical designers and many others, functioning under a project director and having in common the ability to cooperate fully to achieve the over-all objective. A wide range of talents is thus brought to bear on each problem.

This working concept has been designed specifically to fulfill requirements in the engineering of complex systems. Its effectiveness can be measured by its successful application in developing our versatile systems of communications, home entertainment, automatic controls, and military weapons. At the same time, certain aspects of the systems approach, notably the characteristics of team operation and careful definition of objectives, are being applied with equal success to many of our research projects. This is especially the case in those areas of research in

which new fundamental knowledge is first translated into the materials, components and techniques with which the engineer must work.

Application of the systems concept thus is enabling us today to reap maximum benefits from new, expanding scientific and technical knowledge. At the same time, it is providing us with broader experience of immense value in preparation for the coming era of automation. For surely we are moving from the electronic data-processing systems of today to the automatic factories and offices of tomorrow.

The Ever-Quickening Pace

To the scientist or engineer in electronics, the materials revolution and the change in our research and engineering methods as I have indicated them, are characteristics of a new and challenging environment. In this new environment, all who are responsible for continued technological progress find themselves under ever-greater pressure to produce results. What is the source of this pressure? What are the problems that it creates for us, and how may we find their solution? These are the questions I shall now consider.

The half-century that has just passed has surely been the pioneering era for industrial research. Beginning at the turn of the century, the slow growth in number and size of industrial organizations engaged in research continued up to the start of World War II. The growth pattern took a very sharp rise at the outset of the war, and it has since continued at an ever-quicken pace.

The unprecedented demands upon science and technology in World War II resulted in strong government support of research and development. Government funds for this purpose flowed into industrial laboratories, old and new. It flowed into universities and research institutes, and into the expansion of military and governmental laboratories. Inevitably, there were two principal results—a sharp rise in total activity in research and development, and a sharp rise in the number of organizations engaged in these activities.

The pattern was thus established with which we are living today. Organizations that had previously engaged in research expanded their activities and directed them toward military ends. Other organizations previously unconcerned with research found themselves aggressively engaged in research. New enterprises arose whose sole business was research under government contract. Continuing military demand encouraged growth in all of these areas through the period of the Korean conflict and on up to the present time.

The impact upon the industrial community has been profound. Organizations new in research, and new organizations, have learned the value of research as a way of industrial life. Organizations which supported research in the prewar era no longer hold a unique position. Research has become a competitive necessity, and it follows that there is competition in research.

Ever since the close of World War II, we have been engaged in a technological race with the Soviet Union, with the principal objective of maintaining scientific supremacy in arms. Today, with the new evidence of Russian progress in missile technology, it seems likely that our own efforts may be further intensified. As I prepared this material and even as I present it, movements are under way to sharpen our efforts and to provide more effective administration of our programs. With this intensification will certainly come new pressures to further shorten the time steps between science and

technology, and between technology and hardware.

With this pressure and movement in the military area, it is natural that the quickening of pace should be felt in the areas of commercial research, engineering and application. This is true if for no other reason than the ever-quicken pace of science and technology in general.

Thus, in both military and commercial areas, a growing number of developments are being brought to maturity simultaneously. With research groups of independent organizations simultaneously active in the same field, the best results first have become the order of the day. The organization of which the research group is a part must move quickly to practical application in order to retain the competitive advantage of time.

Faster Pace Encounters Limitations

In a sense, then, we are undergoing an invigorating experience. But we also are encountering limitations arising from the acceleration of our technical progress. I refer to the rapid rate at which we are using up available fundamental scientific knowledge without at the same time the certainty of replenishing the supply of such knowledge for tomorrow. In this sense, the tables have been turned from the earlier situations.

For many years, for example, electronics has been stimulated through the application of basic knowledge obtained through research during the few decades around the turn of the century. By arranging circuit elements and tubes in different combinations, by altering the arrangement of elements within the tube, and by aggregations into logical systems, it was possible to achieve new devices, techniques, and services.

Such a procedure can continue only so long as the new requirements do not call for overcoming fundamental obstacles. Today, with the ever-quicken pace of applied research and engineering development, we are encountering new fundamental problems in areas where we should like to do things we do not know how to do. One such area pertains to the reliability of our increasingly complex electronic systems. With the greater number of components that are employed, the probability of failure of the entire system is increased. To overcome this difficulty, we must achieve new standards of performance through basic improvement in materials and equipment. Another such area is the operation of electronic equipment at far higher temperatures than those at which they will function today. This again is a problem mainly of materials, to be solved through long-range research.

Moreover, we know that a large measure of improvement can be made in existing electronic services by the achievement of materials of better performance. We need, for example, improved thermionic emitters, luminescent phosphors and magnetic materials to move from present satisfactory performance to what we might call "hi-fi" performance in all of our electronic systems.

These are all questions of the same type as were basic to the long record of study in the physics of solids. From this came the transistor, the photoconductor and other electronically-active devices and systems. But in today's environment, with its pressure for quick results, we are too often required to conduct essential basic research in an applied research fashion. All too frequently, the result is limited know-how applicable to a particular case, rather than the basic knowledge—the know-why—needed as a foundation for further advance. We learn how to make a material in which electrons will behave in a certain way. We do not find out, however,

why it is that they behave that way, or whether they will do so under other conditions or in other materials.

In the present environment, as I have described it, many industrial laboratories feel limited in devoting much of their resources to long-range programs of uncommitted basic research. The process is one which requires much time and talent. Increasingly, it requires complex and costly facilities. Cost of engineering development and design are clearly understood to be a part of the cost of a product. There is a growing understanding that expenditures for basic research are likewise a proper cost of doing business. This understanding is not as yet universal nor is the obligation to do basic research assumed by many in industry.

Cites Need for Basic Research

Let me cite an example of a basic, although not uncommitted, research project carried out several years ago at RCA Laboratories. The objective was improved understanding of the phenomena occurring in the oxide cathode. From such a study, we expected to gain fundamental knowledge of lasting value to electron tube technology. This project extended over a period of about five years and involved the concentrated attention of a team of talented physicists. The results in increased understanding more than justified the effort, but there still remains a great deal that we do not know about the means of controlling the phenomena that were discovered and described.

It is this scale of effort that is required today in many areas of basic research. In order to meet the demand, however, basic research must be relieved of the pressures that I have described. It must be provided with an environment in which talented scientists may apply themselves to long-range objectives without feeling compelled to fill prescriptions for hardware in order to qualify for financial support. How is such an environment to be expanded and what is the situation today?

The talents for basic research are to be found today in universities, foundation laboratories, government laboratories, and industrial laboratories. In certain areas, such as the field of electronically-active solids, industry is, today, the principal source.

The ability to conduct an adequate schedule of basic research lies not in any shortage of talent, but rather in a lack of an over-all coordinated program and a lack of sufficient long-term support. I shall consider several facets of this situation.

Historically, educational institutions have been the principal seat of uncommitted basic research. Scientists in these institutions have broken the barriers, have provided the new knowledge upon which engineering progress has been based. There is a growing complexity of research facilities and environments with attendant higher and higher costs. There is a need for larger and larger teams of research staff members. Under these conditions much scientific exploration has become too costly for educational institutions on the basis of the earlier formulas for support. However, the need to continue research because of military requirements, because of graduate student training, because of faculty desires and because of competitive environments, has drawn university research strongly into military applied research and development. Financial support is more readily available and more certain to continue for applied research and development than for uncommitted basic research. Educational institutions are no longer fundamentally the creators of new knowledge, they are also the users of new knowledge. Therefore, they too, add to the process of depletion

of basic knowledge. The volume of scientific research in educational institutions is no longer a measure of the effort to advance basic knowledge. The well-being of the research communities in educational institutions is today, too securely hitched to the "fortunes" of the military programs.

During the growth of industrial research, during the half century just passed, there has been a maturing process for at least the older organizations. Knowledge has developed with respect to a program balanced for basic and for applied research. These organizations have undertaken uncommitted, basic research in the broad areas of their interest. They do this because there is an obligation to add to the store of new knowledge. They do this also because they have learned that they respond faster and make better progress in applied research areas if they conduct a balanced amount of basic research. This is a welcome addition and a much needed addition to our advance in new knowledge. But this, taken together with that generated in educational institutions is not enough, today, to feed our ever-quickenening programs. For the few industrial laboratories conducting uncommitted basic research, one might say that there is a balance between basic and applied effort. But for all industrial laboratories taken together, there is imbalance, for only a few carry their proportionate shares.

Experience shows a growing pattern of support by industry at educational institutions for uncommitted basic research and for fellowship aid in graduate training. Here, industry needs to do more. But even with all industry might do, the requirements for basic research at educational institutions would not be fulfilled.

With the continuing international tensions and the growing rivalry for military supremacy, it is natural that the military departments should sponsor basic research. This is particularly necessary since no other agency of the Federal Government is, today, in a position to do this adequately for general fields of endeavor. The Atomic Energy Commission does sponsor research in the area of its interest. For the broad fields, however, government aid has come largely from the military departments. It is right and proper that the military departments should sponsor uncommitted basic research. It is my conviction, however, that basic research in educational institutions especially should not be as dependent as it is today upon the programs of the military departments.

Using the National Science Foundation

The Congress has established an appropriate mechanism for sponsoring basic research through the National Science Foundation. There has been a steady increase in the funding for the National Science Foundation since 1951. But if the Foundation is to be the mechanism it might be and I believe that it should be, then the current funding must be greatly increased. Here is the organization which is in a position to assess the needs for basic research results to meet the military and the commercial programs. The task of the Foundation should be to assure the needed effort in basic research, the flow of new fundamental knowledge and the supply of trained scientists. What is required is sufficient funding for the National Science Foundation to sponsor research on a long enough time basis so that the work can be scheduled efficiently and moved forward effectively. This is a present and a pressing need and obligation.

We move on in a world with tensions of cold war, ever-changing but ever-increasing. We have need for increasing strength in science and in adding engineering applications to our defense weapons storehouse and to our non-

defense programs. We should train more scientists and engineers and train them better so they may perform more effectively. We should provide appropriate facilities and invigorating environments. We should assure stability so that long-term research may mature.

With events in such change and turmoil as they are today, it is time that we critically re-examine all of our procedures and policies relating to science and military requirements.

We must clearly understand what it is that needs to be done. We must plan so as to assure that the objectives are met. We must organize to coordinate the efforts of all of the units—for all must contribute. This will require the best of talent and a purpose which will not be swerved. This is a task of large magnitude. It is on our doorstep. Upon what we do here, more than upon any other material thing, will depend the outcome in the world of tomorrow.

Upturn in New Orders Detected

Though little general change is noted, purchasing agents business survey group detects upward turn in new orders. Committee members express concern about unemployment and find nothing in short supply.

Purchasing executives confirm that business right now is not good. The latest report of National Association of Purchasing Agents' Business Survey Committee, whose Chairman is Chester F. Ogden, Vice-President, The Detroit Edison Co., Detroit, Mich., points out: "Production schedules are still being cut. Employment is drastically down, with more members reporting reductions than at any time since 1949. The campaign to cut inventories continues. Price weaknesses in raw material markets show signs of spreading to manufactured commodities. Competition and sales effort are reaching new postwar highs. All materials are readily available. Expansion plans are being reviewed and many are either being abandoned or deferred. Order lead times are being shortened further."

"But, with all of these pessimistic reports, there is concrete evidence this month that the thread of optimism reported in January may have been more than just 'whistling in the dark.' This results from the fact that one of our most sensitive indicators, new orders, has taken a definite turn for the better. 24% say their situation has improved. This compares with 15% who reported improvement last month. Only 31% say it is worse, as compared to 48% showing a poorer situation last month. These figures mark a reversal of the downward movement in the new order situation that has prevailed for months."

"One major factor that is being closely watched in conjunction with the present business situation is government spending. Therefore, our special question for February sought to find out if government spending was being channeled into our members' companies in any greater proportion than during the past six months."

"In general, little change is noted. Some industries such as aircraft, chemicals, and oil state they have relatively fewer government contracts than during the last six months. On the other hand, electronics, electrical manufacturing, and office machines

have noted a spurt in their government business.

Commodity Prices

"Competition is forcing prices of industrial materials down. Not since 1954 have so many Committee members reported that, overall, they are paying less for the items they buy. They point out that the price weakness which has been prevalent in many of the raw material markets is now showing signs of spreading to manufactured items. Manufacturers are desperately searching for cost reduction methods that will offset the lower prices they are having to quote so as to obtain new orders."

Inventories

"Purchasing executives continue to be extremely inventory conscious. Most are taking all steps possible to reduce further their materials on hand. There are no indications that any believe now is a good time to buy ahead. 46% say they have been able to effect reductions in the last 30 days. 39% say their inventories are about the same, and the 15% who have more material on hand say that this is caused by lower production schedules rather than any desire to increase stocks."

Employment

"Unemployment continues to be of major concern to companies represented by our Committee members. Reductions in shifts and shorter work weeks are among methods being used to retain valued employees. In spite of this, lower production schedules and high inventories of finished products are forcing layoffs in many industries. 57% of the Committee members report employment as down this month, the highest number since February 1949. Only 8% have noted any gain in employment over January."

Buying Policy

"Abandonment or deferment of expansion programs is reflected this month in the continued shortening of time reported for forward commitments on capital expenditures."

	Per Cent Reporting				
	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. to 1 Yr.
FEBRUARY					
Production Materials	17	42	29	11	1
MRO Supplies -----	29	43	21	5	2
Capital Expenditures	18	6	13	27	36
JANUARY					
Production Schedules	11	40	37	12	--
MRO Supplies -----	31	41	21	4	3
Capital Expenditures	14	7	14	22	43

Specific Commodity Changes

"High inventories of finished products are forcing price concessions of many kinds."

"On the up side are: Electrical equipment and freight rates."

"On the down side are: Copper, brass, steel, tin, lumber, oil, gasoline, rubber, textiles, and coal."

"In short supply: As in January, nothing."

J. L. Stoll Opens

(Special to THE FINANCIAL CHRONICLE)

LOS ANGELES, Calif.—Jack L. Stoll is conducting an investment business from offices at 6381 Hollywood Boulevard.

Join Southern States

(Special to THE FINANCIAL CHRONICLE)

ATLANTA, Ga. — Bert N. Garstin, Alton E. Lutz and James F. Kent are now with Southern States Securities Corporation, 64 Ponce de Leon Boulevard.

Paid-Television Test Left Up to Congress

Federal Communications Commission passed a resolution Feb. 26, reversing its scheduled processing of pay TV applications. The Commission decided not to authorize subscription television operations until Congress specifically empowers such quasi-judicial-administrative action.

TEXT OF COMMISSION'S REPORT

In the Matter of

Amendment of Par 3 of the Commission's Rules and Regulations (Radio Broadcast Services) To Provide for Subscription Television Service

Docket No. 11279

SECOND REPORT

By the Commission: Commissioners Mack and Ford not participating.

(1) Since the adoption of our First Report in this proceeding on Oct. 17, 1957, subscription television has been the subject of active interest in Congress. In January of this year the Interstate and Foreign Commerce Committee of the House of Representatives conducted six days of hearings on the subject. On Feb. 6, 1958, that Committee adopted a Resolution expressing the sense of the Committee in the following terms:

RESOLUTION

"RESOLVED, That it is the sense of this Committee that the public interest would not be served by the granting of authorizations for subscription television operations as contemplated by the Federal Communications Commission in its First Report, adopted Oct. 17, 1957, in Docket Number 11279, because

(1) it has not been established to the complete satisfaction of this Committee that authority to license such operations comes within the power of the Commission under the provisions of the Communications Act of 1934; and

(2) such operations might lead at least to a partial blacking-out of the present system of television operations, with possible injury to such present system in particular communities, if not throughout the United States.

Sec. 2. For the reasons stated above, it is the sense of this Committee that the Federal Communications Commission should not grant authorizations for subscription television operations as contemplated in such First Report unless and until the Communications Act of 1934 is amended so as to specifically empower the Commission to grant such authorizations."

(2) Public announcement has been made of an action on Feb. 19, 1958, by the Interstate and Foreign Commerce Committee of the Senate concerning subscription television. On that date the Committee voted to recommend the adoption by the Senate of the following Resolution:

"RESOLVED, That it is the sense of the Senate that the Federal Communications Commission should not, without specific authorization by law, authorize or permit any television licensee or agent thereof to impose a toll, fee, subscription, or other charge on the general public or any portion thereof, for the privilege of viewing television programs received over television receivers located in the home, with the exception of both community antenna systems and those programs transmitted by cable or wire or both."

(3) Recently numerous Bills have been introduced in both Houses which, if enacted into law, would either prohibit the authorization by the Commission of the broadcast of programs for which a direct charge is imposed on the viewers, or would place certain restrictions on such authorizations by the Commission. The Commission has been informed by the Chairman of the House Interstate and Foreign Commerce Committee that that Committee intends to hold hearings on the Bills now pending on the subject of subscription television. It has been announced that the Senate Interstate and Foreign Commerce Committee similarly intends to hold hearings on the Bills introduced in the Senate on this subject. In these circumstances, until Congress acts on the pending Bills or it becomes reasonably evident that no action may be expected on them, we consider it appropriate to maintain the status quo.

(4) Prohibitory legislation would, of course, moot this entire proceeding. If Congress should decide to give express authorization to the Commission to authorize subscription television operations on a trial or any other basis it may be necessary to modify the conditions set out in the First Report, depending on the requirements laid down in any legislation on this subject.

(5) Accordingly, no applications for authorizations to conduct trial subscription television operations will be processed until 30 days following the sine die adjournment of the 85th Congress.

FEDERAL COMMUNICATIONS COMMISSION.
Mary Jane Morris, Secretary.

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Estate Taxes and Business Mergers

whether there has been a 100% redemption. This is provided by the attribution rules of Section 318 of the Internal Revenue Code. Care must be exercised to avoid the application of these rules.

Finding the Money

The major problem in the case of stock-redemption plans and cross-purchase agreements is that of money. Where will the money be found? The corporation can redeem stock out of its available funds but this privilege is often restricted by state law (as in New York State) so that redemptions can only be made to the extent of surplus. Thus a stock redemption plan may not in fact be effective even though it exists on paper.

Insuring a stock-redemption plan

Insurance can provide the funds in the case of both the stock-redemption plan and the cross-purchase agreement. The proceeds can be used to redeem the stock from the estate or from the beneficiaries. As pointed out previously, the premiums are non-deductible expenses and the proceeds are non-taxable to the company. The premiums are generally not taxable to the shareholder. An exception may exist where there is a sole stockholder or where the insurance is not for the benefit of the corporation, in which case the premium payments may be treated as dividends to the shareholder and taxable to him. Until recently two Tax Court cases put a damper on stock-redemption plans on this score. These are: **Oreste Casale**, 26 T.C. 1020 (1956) and **Henry E. Prunier**, 28 T.C. No. 4 (1957). Both cases have been reversed by appellate courts: the **Casale** case by the Second Circuit in Sept. 1957 and the **Prunier** case by the First Circuit in Nov. 1957.

In the **Casale** case the appellate court held that premium payments by a corporation which was the named beneficiary and clearly the owner of a policy on a stockholder's life, were not taxable income to the stockholder. The court emphasized the fact that the policy was a corporate asset which would be subject to the claims of corporate creditors in case of insolvency.

In the **Prunier** case, the appellate court reversed the Tax Court which had held that premium payments by a corporation on life insurance for two major stockholders constituted taxable income to the holders. The purpose of the policies was to permit the corporation to buy their stock in case of death. The Tax Court had ruled that the payments were actually dividends to the two stockholders because each had named the other as beneficiary. The Tax Court had contended that the corporation was not the owner or beneficiary of the policies, it was merely "a conduit" through which taxable benefits were passed to the taxpayers.

The **Prunier** decision had given rise to considerable concern among life insurance companies as well as corporations that use life insurance policies to buy the stock of deceased stockholders.

In reversing the Tax Court decision in the **Prunier** case, the appellate court cited the earlier **Casale** decision with approval and noted also that under Massachusetts law, the **Prunier** corporation could have obtained the help of a court of equity to recover the proceeds of the insurance policy if one of the brothers had died. (The **Casale** decision is reported in P-H 72,945 and the **Prunier** decision is cited in P-H 73,023.)

There is one difficulty here that has not yet been fully resolved. When the company gets the proceeds, the book value per share automatically goes up. Does this

increase the valuation to be placed on the shares held by the estate for estate tax purposes?

Insuring a cross-purchase agreement

The difficulty with individual shareholders or partners holding insurance on the other owners, is three-fold: (1) the premiums are paid with after-tax money which may be a greater burden on individuals than on a business unit; (2) the number of insurance policies becomes cumbersome since each shareholder must hold policies on each of the other shareholders or at least own a portion of a policy on each of the others; (3) there may be a tax problem involved in each survivor buying the existing policies on the other survivors from the estate of the deceased. The difference between purchase price (plus future premiums) and proceeds may be taxable as a capital gain.

Maximizing Business Survival By Minimizing Taxes

Finally, we may consider how an individual who has built up a business can increase the chance of its survival even where a recapture of the ownership interest is not feasible. Perhaps he is uninsurable or he cannot reach agreement with his associates on stock redemption or other purchase arrangements. He must plan his estate so as to minimize the chance that the ownership interest will fall into inexperienced or hostile hands. What are the factors that increase this unhappy chance? Heavy estate taxes may force the liquidation of some of the ownership interest. The new shareholders may wish to liquidate the firm itself or otherwise operate it in a manner inconsistent with business survival. Thus a major shareholder will wish to minimize estate taxes for the sake of the survival of his business as well as for the benefit of his heirs. Every major shareholder has a right to encourage the others to minimize estate taxes for the sake of business survival.

Use of the marital deduction

One of the important devices in minimizing estate taxes is the marital deduction. The full amount left to the wife up to one half of the gross estate is deductible from the estate for tax purposes. It must be remembered that the taxable estate is usually greater than the estate that passes through the will (the probate estate). For instance, insurance usually passes to the wife outside the will. It will ordinarily be included in the taxable estate unless the insured has given up all "incidents of ownership" such as the right to change the beneficiary. Under a proposal which has been approved by the House Ways and Means Committee exclusive reliance on the incidents-of-ownership test would be modified to some extent.

Similarly a joint account or jointly owned property will pass to the wife outside the will but will be included in the taxable estate if the deceased actually provided the funds. Also, gifts that are found to have been made in contemplation of death will be included in the taxable estate although of course they do not appear in the will or the probate estate. (There is now a conclusive presumption however that gifts made more than three years before death are not in contemplation of death.)

It is important to remember these points in getting the maximum marital deduction. The marital deduction is up to half the gross estate for estate tax purposes, not merely the probate estate which passes by will.

This does not mean, however,

that it is always wise to take the maximum marital deduction: it is not always wise to reduce the estate tax in the husband's estate as much as possible. The estate tax is progressive, ranging from 3% on the first \$5,000 of taxable estate to 7½% on amounts over \$10,000,000. To the extent that we reduce the husband's estate tax through the use of the marital deduction we add potentially to the wife's estate, hence her estate tax. If the wife has separate property in large amount, it may be a mistake to augment her estate by the full marital deduction. This might put her estate in a much higher tax bracket than her husband's. The result of this would be that the total tax in the two estates would be greater than if the husband had transferred less property to his wife even if that meant that he took less than the maximum marital deduction and paid a higher tax than necessary. The total tax in the two estates would be minimized by equalizing the two estates.

It is difficult, of course, to calculate the right amount of marital deduction for this purpose because we can never be sure how much of her property the wife will have on her death. Whether or not she remarries is, of course, an important factor in this regard. We cannot make any estimate of the probabilities of this without knowing what she looks like.

The minimization of estate taxes through proper use of the marital deduction can reduce the chance of the ownership interest falling into the hands of strangers through a forced sale to meet estate taxes. What of a voluntary sale by the widow? This too can be forestalled by setting up a marital deduction estate which gives the wife the income during life and has corpus go to her estate on her death. (This is not the only kind of trust that qualifies for the marital deduction. A trust with power to appoint by will has advantages in the likelihood of borrowing against the corpus during life.)

Of course, once we are considering trusts we need not deal only with marital deduction trusts. The important consideration is to get the stock into the hands of trustees who would be more likely than the wife to vote it in accordance with the decedent's view and less likely than the wife to sell the stock to strangers. The stock could be put in trust in that part of the estate which does not qualify for the marital deduction. An example would be a trust which gave the income to the wife for life and the corpus on her death to the children. If the bulk of the estate, however, consists of stock in the corporation that we are trying to protect, some of it will necessarily overflow into the marital deduction portion of the estate. A marital deduction estate trust would then be appropriate.

Who shall be the trustees and how shall they be directed? The trust provisions can express the decedent's wishes to the survival of the business and exhort the trustees to retain the corporate stock as long as it is reasonable to do so. It would be unwise to impose an absolute restriction on the sale of the corporate stock. Although many individuals may be competent trustees, a corporate trustee such as a bank is likely to act conservatively and to provide continuity of trust management.

Use of the charitable deduction

The deduction for gifts to charity may be used to increase the liquidity of the estate, increase the benefits to income beneficiaries and reduce the risk of unfavorable valuations by tax agents. Property left to charity (including universities!) is deductible from the taxable estate even if a life interest is reserved for another beneficiary. The taxable estate and thus the estate tax are reduced. More cash

is thus available without the sale of property. The sale of the ownership interest in the business firm may thus be averted. This is the liquidity advantage of the charitable deduction.

Since less property need be sold to pay taxes, there is more property available (including the property that is ultimately to go to charity) to earn income for the income beneficiary. Thus the income beneficiary gains from the charitable deduction.

If the stock in the closely-held company is divided between the charitable deduction and the rest of the estate, there is also a hedge against an excessive valuation of the stock. If the valuation the stock is raised, the charitable deduction is likewise raised, hence the potential rise in the estate tax may be offset. It should be remembered that there is no capital gains tax on appreciated property that goes to charity.

Summary

We have reviewed the practices of business firms in trying to ensure the survival of the firm despite the death of a key executive or a major shareholder or partner. The loss of earning power of the company following the death of a key executive can be offset by insurance on that man taken out by the firm. The proceeds of the insurance will compensate the firm in part at least for the loss of earning power.

The continuity of the business firm after the death of a major stockholder or partner can be assured through a stock-redemption plan or a cross-purchase agreement. Under a stock-redemption plan the company agrees to buy the stock of the deceased. Under cross-purchase agreements the surviving stockholders or partners agree to do so. Either may obtain the necessary funds through life insurance on the stockholder or partner. There are many legal pitfalls ready to trap the unwary under either arrangement.

When the stock cannot be redeemed by the company or bought out by surviving stockholders, the survival of the firm may be seriously jeopardized. The widow may try to run the firm or sell her interest to a stranger who will do likewise.

Attempts are made to minimize estate taxes so as to reduce the chance of forced sale of the stock. This can be aided by proper use of the marital deduction. The stock may be left in trust so that the widow cannot touch it during life even though she derives the income from it. In so far as the stock is left in a trust that does not qualify for the marital deduction, the trust corpus would pass to the children or others on her death. If the stock is to qualify for the marital deduction and it is to be kept out of the wife's hands, care must be exercised to set up a qualifying trust, such as an estate trust whereby the corpus goes to her estate on her death.

In these ways, business firms try to respond to the estate tax and try to ensure the survival of the business after the death of key executives or owners. The complicated nature of these arrangements, however, and the persistent residue of uncertainty and illiquidity partly associated with the estate tax may drive the owner to yield to a much simpler solution: sell out.

Conclusion

Sale or merger during the lifetime of the principal owner offers the best way for the individual to minimize the problems of uncertainty and illiquidity involved in the estate tax. The owner receives either cash or the listed securities of the large corporation. If he receives securities he pays no capital gains tax; nor does his estate. The result in any case is that neither he nor his heirs need face the more serious problems associated

with the estate tax. The result of sale or merger with a large company is also that the small company disappears as a separate entity. It is either absorbed indistinguishably into the large corporation or becomes one of its subsidiaries or divisions.

Thus estate taxes are driving small business into the arms of the big corporation. They are also driving the lawyer and accountant onto the couch of the psychiatrist. The insurance underwriter and the trust officer can render first aid but they cannot cure the main defects.

Major revisions in the estate tax law and in court organization are necessary to solve these problems. The tax rates are definite enough but the question is, against what amount will they be applied? There are provisions that facilitate the liquefaction of part of the estate (to pay estate taxes and funeral and administrative expenses) but it is no easy matter to comply with these provisions; nor is it easy to turn shares of a closely-held company into cash even if the law is complied with.

Recommendations

In order to avoid or reduce the absorption of small companies by large ones, we must provide some relief from uncertainty and illiquidity. The estate tax is not solely responsible for this situation but it does aggravate the difficulties involved. Revisions in the estate tax can accordingly relieve or eliminate the problems to some degree.

Uncertainty can be relieved by:

(1) On the subject of valuation, having the Internal Revenue Service give rulings on the application of a taxpayer on either the method of valuation used in a particular stock-redemption or cross-purchase agreement or on the actual value set by such agreement. Approval of the method would at least narrow the range of valuation uncertainty. Approval of the actual value, would, of course, eliminate uncertainty as to value. This would require an increase in the number of revenue agents but would be of invaluable help to small business.

(2) On the subject of the attribution rules, a clarification and simplification of Section 318 of the Internal Revenue Code under which an estate is presumed to own the stock independently held by any beneficiary of the estate. The prevailing impression of tax practitioners is that this section was ill-conceived and hastily drawn.

(3) On the general problem of reducing uncertainty, the establishment of a single, nation-wide Court of Tax Appeals which would hear appeals on tax matters from Tax Court, Federal District Courts and the Court of Claims and from which appeals would be taken to the United States Supreme Court. At the present time there are eleven separate Circuit Courts of Appeal which hear appeals from decisions of the Tax Court. As a result, conflicting decisions exist on the same point of tax law. The taxpayer is confused and neither the Tax Court nor the Treasury feels it is bound by any particular decision. Only when the U. S. Supreme Court has passed on a point is there any settlement of the issue generally. This might take as long as seven or eight years; in the meantime, no-one knows what the law is, for the simple reason that there is no single authoritative determination of the law.

The problem of illiquidity can be reduced by:

(1) Making stock redemption for purposes of estate taxes and funeral and administrative expenses in family businesses free of all percentage restrictions (now required by Section 303 of the Internal Revenue Code) and immune to any claim that the re-

demption is substantially equivalent to a dividend.

(2) Allowing the estate tax in family businesses to be spread over a 10-year period as a matter of right. A proposal of this sort is now before the House Ways and Means Committee. This provision should apply only where the redemption privilege is not exercised. At the present time the tax is due and payable in full, fifteen months after death. (I.R.C. Sec. 2002; 2203) The Commissioner may extend the time up to ten years more and the executor may be required to furnish security. (I.R.C. Sec. 6165) This should not be discretionary with the Commissioner; nor should security be required in the case of family business.

(3) Encouraging or authorizing existing governmental lending

agencies to buy debentures or non-voting stock in small corporations on death of the principal owner to facilitate the payment of estate taxes where the corporation has insufficient funds for redemption of stock.

These recommendations should have the effect of removing the estate tax as a contributing factor in the merger of small businesses into large companies. Perhaps we can say that the estate tax has been an artificial factor distorting economic decisions in questions of merger. By removing the estate tax as an element of uncertainty and illiquidity we may be said to be reestablishing a "free market" in mergers whereby a proposed merger will be accepted or rejected on its merits by the parties involved without the bias introduced by peculiarities of the existing estate tax.

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The Commercial Implications Of Missiles-Satellite-Space Age

rocket capable of landing on the moon.

The fruits of the space age will not benefit just the military, but will filter down to every corner of United States life. The same electronic brain that guides a missile or satellite can run an automated factory. Radio and television sets will have tiny, shock-proof tubes that won't wear out. There will be rocket airliners, rocket freighters, and rocket mail ships.

The Vice-President of General Tire & Rubber Company recently predicted in Los Angeles that "the year 1975 will see supersonic missiles for passengers, for mail, for freight of all kinds." He indicated that Aerojet-General, a subsidiary, has on its drawing boards the design for a jet engine that could cut transportation between Los Angeles and New York to less than an hour. And in July, 1957, the Executive Vice-President of Olin-Mathieson, predicted that high-energy fuel to power supersonic jet-airliners and rocket vehicles would become a billion dollar industry within the next 10 years.

Even at this preliminary stage of the "space age," the research, development, testing and production of missiles, satellites and space flight vehicles absorb the energies of more than 300,000 people. Thousands of companies across the United States, from giant airframe manufacturers to small electronic specialty plants producing such items as magnetic memory drums for missile guidance systems, are working full shifts. The Atlas ICBM missile contracts alone spread through hundreds of United States companies. Six thousand persons man the missile firing range at White Sands, N. M. Nearby, the Army's guided missile school at Fort Bliss, Texas, has a steady student population of 4,000. Thousands more civilians and military men and women help fire and track long-range ballistic and guided missiles fired from Florida's Patrick Air Force Base.

Manned Aircraft's Future

Already the rapid growth in missile capabilities has curtailed the need for interceptor aircraft used in close support of troops and in air defense. Nike-Ajax and Nike-Hercules missile launching bases ring most of our important cities. The Bomarc ground-to-air missile, with an effective range of over 100 miles, is in production and is slated soon to protect our shores. Likewise, the Army's ground support missiles La Crosse and Hawk are in production.

Because complex technical prob-

lems require a long lead time before missiles and satellites can be perfected, manned aircraft will continue to form the bulk of our strategic striking force for several more years. The aircraft industry, meanwhile, is undergoing a corporate and technological revolution because of the shift from manned aircraft to missiles and satellites. Cutbacks in orders for manned aircraft have caused profound readjustments for some companies, particularly those that did not develop the necessary "know how" in missiles. Total employment in the aircraft industry dropped from a peak of 900,000 at the beginning of 1957 to 800,000 at the end of the year.

The President of the Aircraft Industries Association predicted on Dec. 26 last, that programs in the fields of missiles and space technology would make up more than 35% of the aviation industry's sales by the end of 1958. He further predicted that unfilled orders for missiles were expected by the end of 1958 to comprise at least 50% of the aviation manufacturers' total military backlog. By 1960, at the latest, more than 50% of the entire aviation industry production will be devoted to missiles, satellites and space flight projects.

The transition to missiles and satellites, from manned aircraft will cause the aircraft industry to lose some business on balance, even though practically all airframe builders are now engaged in missile work. Many companies, prominent in other industries have obtained good positions in this new market because of the vast amount of electronic equipment needed and the wide diversity of power plants and the special skills required. Electronic equipment constitutes roughly 50% of the total cost of a missile, compared with some 35% for a modern military plane.

Companies such as General Electric, Sperry-Rand, Raytheon, Minneapolis-Honeywell, and Avco Manufacturing, are forging into missile making and there are a host of others. Chrysler Corporation produces components for the Redstone and Jupiter missiles and the Jupiter-C satellite. The Ford Motor Company has set up a missiles subsidiary called Aeromutronic Systems, Inc., which intends to take a missile project and see it through from conception and manufacture to its utilization and maintenance. The following quick rundown on several companies only begins to suggest the extent to which missiles have permeated our industrial complex today.

Cites Companies in the Industry

Aerojet-General, a subsidiary of General Tire, produces liquid and solid-propellant rocket engines. It is making the liquid engine for the Titan ICBM, and the solid propellant engine for Navy's Polaris ICBM.

Bell Aircraft makes the Air Force's Rascal, air-to-ground missile, rocket engines, and radio-remote systems for landing the Regulus I and II. Missiles account for 52% of Bell's activities.

Bendix Aviation is the prime contractor for the Navy's Talos and is engaged in other areas of the missile program.

Burrough's Corp. has been awarded a \$37 million contract for development and production of an electronic guidance computer being used in the Atlas.

In terms of dollar sales and backlog, **Douglas Aircraft** is one of the largest in the missile field. On Dec. 3, 1957, Douglas reported a backlog of missile work one-third the volume of aircraft orders now on hand—more than double the percentage of the previous year.

General Dynamic's Convair Division has two of its sections working exclusively on missiles, satellites and space vehicles.

General Electric is responsible for the nose cone development of the Atlas and Thor missiles, for which it has received a \$150 million contract. It is also one of the major contractors for the development of five control and guidance systems for Polaris.

Giannini & Co. is one of the largest manufacturers of precision telemetering and electronic control instruments in the country. Roughly 50% of its business stems from missiles.

International Telephone & Telegraph is heavily involved in the Lacrosse, Talos, Bormac, Rascal, Sparrow, Terrier and Atlas programs. The company designs and produces equipment for launching, checkout, radar, and interial guidance.

Lockheed Aircraft is the prime contractor for the Navy's promising Polaris, which represents its major participation in missiles. By the end of 1958 missile work is slated to reach 20% of the company's total volume.

Martin Company is the prime contractor for the Vanguard earth satellite project and the Lacrosse, Matador and Titan. In announcing an \$810 million backlog of military orders, Martin said that missile dollars exceeded those for manned aircraft.

North American Aviation is the nation's leading producer of liquid-propellant rocket engines, making the power plants for the Redstone, Jupiter, Thor and Atlas missiles. Approximately 35% of all employees are engaged in missile work.

Northrop Aircraft is the prime contractor for the Snark ICBM. According to a recent statement of its President, missiles account for 57% of its effort.

Radiation Inc., a relatively new company, makes radar and antenna systems, digital computers, telemetering systems and checkout equipment. Its operations in the missile field account for some 80% of its total effort.

Reaction Motors, great pioneer of liquid rocket engines, is merging with **Thiokol Chemical**, maker of solid propellant engines, making the combination one of leading rocket propulsion engine companies in the United States.

Siegler Corp. among the first 10 electronics suppliers to the missile field, works closely with Convair, having built electronic instrumentation for the Atlas project. The company also did the instrumentation for Martin's Titan facility in Denver and built a portion of the Snark's ground support equipment for Northrop.

Sonotone Corporation makes ultra-reliable miniature and sub-miniature radio tubes for missiles, as well as nickel-cadmium batteries both for missiles and ground support equipment.

Sperry Rand designs and produces a wide variety of electronic components for missiles. Approximately 47% of its sales are to the U. S. Government.

Sylvania Electric is involved in roughly 30 missile projects, making components, sub-assemblies, circuitry, etc. The company is also the largest supplier to the missile field with its line of special miniature and sub-miniature tubes.

But the consequences of this new age we are entering are by no means limited to the strictly industrial aspects of our civilization, however impressive the impact of the space age is upon engineering, science and commerce. Our economic existence will be affected in many other ways.

Other Consequential Benefits

As soon as we begin surveying earth from space, long-range and short-range weather prediction will become more accurate on a continental and local basis. Organized, satellite-based weather service will result in great benefits to agriculture, and therefore to the wellbeing of all nations. Instrumented satellites, especially when they are at great altitudes (4,000 to 8,000 miles), can serve as communication links for inter-continental radio and television transmission.

The environmental conditions, particular to satellites or space vehicles, should bring unusual benefit to the medical sciences. One field which is frequently mentioned is space-biological research. Yet practical medicine may find equal benefits in many unsuspected ways. Weightlessness — which prevails outside the earth's gravitational pull — normally is considered a nuisance. This may, however, be of advantage in cases of heart disease, other organic disturbances, bone diseases and perhaps for surgery in certain aspects. Low-temperature conditions, existing simultaneously in space with weightlessness, could be found useful in some medical applications. Controlled local or overall irradiation by the sun in space may furnish new therapies against cancer, skin diseases, and so on. Apparently, not enough thought has been given so far to the possibilities of satellite therapy and satellite surgery to appraise its potential merits reliably.

In considering industrial and medicinal benefits from satellites, it becomes particularly apparent that these utilities depend decisively on the success of programs for manned hypersonic gliders capable of decent from space, and for small inhabitable Earth satellites of four- to perhaps 10-person capacity.

Likewise, the environment on space stations will offer development of special and radically new industrial processes. These are too highly complicated to discuss with clarity in so short a space as this. Let us list the four outstanding features of space which someday should prove of great industrial value: first, vacuum; second, extremely low temperatures and large temperature differences; third, intense radiation from infrared to x-rays; and fourth, weightlessness.

Political Value

Unquestionably the most immediate benefits to be realized from the conquest of space are political. The value of an advanced position in space flight development cannot be doubted. This factor is particularly imperative during periods of "cold war," where prestige is frequently more important than force in international leadership.

However, the leading military

powers can ill afford to neglect the potential of space operations: hypersonic gliders for bombing and reconnaissance; the capability of operating satellites and satellites for reconnaissance purposes; and, finally, free space operations, up to altitudes of several thousand miles, by which terrestrial areas can be kept under constant surveillance.

The spectacular scientific achievements of instrumental earth satellites are today well recognized. To the geophysical, geodetic and astrophysical benefits, more advanced television stations will add meteorological and astronomical observations unequalled on the earth's surface. Lunar probes will extend research on cosmic radiation, meteoritic dust, and the geomagnetic field far out into space.

Artificial comets will extend the investigation of meteoritic matter into interplanetary space and measure the existence and stability of magnetic fields in connection with sunspots. The combined earth-moon mass, the moon's distance, and the earth's orbit, are yet not known, but are of fundamental scientific and astronomical significance. Thermionuclear probes exploded in the Venusian and Martian atmosphere will determine which elements these atmospheres contain. Many more research programs can be added to this list.

Just as the earth satellite provides measurements of planetary character not obtainable otherwise, so will space flight tend to stress the fundamentally unifying characteristics of man over local customs, history and place in which he was born. When these anomalies have lost their devastating capability of arousing misunderstanding, distrust, hatred and war among peoples, without, however, losing the ability to contribute to the local color and individuality of human culture, then freedom and richness of human life will have been increased immeasurably.

In fostering such development, space flight is likely to contribute more material and spiritual improvements in living standards all over this planet than any other single economic or social measure. It brings this about simply by creating gradually a more intense feeling of belonging to the same planetary community. This will provide the necessary conditions for greater effectiveness of economic and social measures aimed at raising the dignity, as well as the responsibility, of man. Such improvements, in turn, will not only increase the utility of space flight, but will unlock creative forces in all facets of human civilization.

These cascading consequences, whose potential exceeds our imagination—just as the consequences of Columbus' discovery exceeded his expectations—may be among the most important contributions of space flight to the future of mankind.

Larkin & Company Opens in San Francisco

(Special to THE FINANCIAL CHRONICLE)

SAN FRANCISCO, Calif.—Larkin & Company has been formed with offices at 301 Pine Street to engage in a securities business. Emmett A. Larkin is a general partner and Earl S. Douglass a limited partner in the firm. Both were formerly with Eastland, Douglass & Co., Inc.

Citizens Sav. & Inv.

HATBORO, Pa.—Citizens Saving and Investment Service has been formed with offices at 425 Grape Street. Thomas E. Corbett is a principal of the firm.

Continued from first page

The Business Outlook— Why Economists Disagree

surprising; during most of the postwar era, the economic environment has been generally expansive. Only in 1948-49 and 1953-54 did the economy as a whole recede significantly, and in both instances the decline was moderate and its duration was brief. Nevertheless, since the same economic information is available to all, one must ask how it happens that qualified economists should differ so radically in their interpretation of the present and their guesses as to the outlook. By exploring these differences we may hope to gain better perspective regarding the economy's current position and what may be in store in the future.

Where We Stand Today

So far, the progress of this third business recession in the postwar era closely resembles its two predecessors in many respects. Although the onset of a recession is always disturbing, it is some consolation to realize that the pace and extent of the downturn have not been perceptibly different from these previous moderate adjustment periods, and that the pattern of developments to date is by no means unusual.

The Gross National Product—which is an estimate of the value of all goods and services produced, and thus more closely than any other indicator measures total economic activity—has receded only slightly from its peak rate of last year. Now estimated as running at a \$430 billion annual rate, it is only about 2½% below the all-time record rate of \$440 billion reached in the third quarter of 1957. The biggest single factor contributing to this decline was the shift from an inventory buildup to liquidation in the closing months of 1957, and such a shift is altogether typical of a business recession. Inventory liquidation, in turn, was probably sparked by the more than ample supply of goods of all kinds, abundant productive capacity, some moderate weakness in aggregate consumer buying, and a less optimistic appraisal of prospective demands in the period ahead.

In addition to the liquidation of inventories, a decline is getting under way in another major sector of the economy, namely, business outlays on new plant and equipment. Through the turn of the year, such outlays did not decline much, if at all, but the presence of excess industrial capacity virtually across the board, and the many signs pointing to deferments and cancellations in business expansion programs, have clearly affected business decisions and the business climate. Residential building, on the other hand, seems to have bottomed out in 1957 and for some months has been giving some tentative indications of an upturn. Total construction activity, moreover, is being well sustained, largely by the persistent upturn in public facilities. Finally, the sag in defense orders, which became an unsettling factor in the business climate after the middle of last year, has been halted and reversed.

Industrial production has dropped more than total economic activity, and this too is typical; with new orders down and inventories being liquidated, the business recession is affecting manufacturing and mining substantially more than the service industries. Within the manufacturing category, the durable goods industries—and particularly the production of primary metals, metal prod-

ucts, machinery and transportation equipment—have been hardest hit. Most soft goods industries except textiles and petroleum are holding up fairly well, which again conforms to the usual pattern of recession.

The current downturn has had a conspicuous impact upon employment and profits. Manufacturing employment and the factory work week were easing off during much of 1957 and have fallen more rapidly in recent months. In February, partly because of seasonal curtailments in construction and trade, unemployment evidently rose to about five million, compared with an average of less than three million for 1955 through 1957. Corporate profits, too, have been adversely affected, to judge from the earnings statements currently becoming available. Personal income, however, although sagging for some months, is still very close to its all-time peak.

Areas of Disagreement

Thus, as always when a recession takes hold, the economic picture is neither one of unmitigated despair nor it is wholly reassuring. How long the downturn may continue, how long the economy may remain at recession levels, and how long until an upturn takes hold depends in large part upon the extent of the maladjustments in the economy and upon the reactions of consumers and businessmen as well as Government to the developments already under way. It is because these maladjustments cannot be measured accurately and because these reactions and interactions cannot be forecast by any devices or techniques now available, that analysis of the economic prospects, even over the very near-term, is today more than ever dependent upon human judgment. This presumably accounts for the prevailing divergence of views regarding the outlook.

A minority opinion is that the economic downturn has been virtually completed and that improvement is close at hand; if proven correct, this would make the 1957-58 recession one of the shortest in our history. At the other end is another group which suggests that business will continue to slide off throughout the remainder of 1958 and that this may culminate in a sustained and serious depression. Most forecasters stand between these two poles; at present they expect the decline to end sometime this year but even here there are many shades of thinking as to whether the end of the decline will be followed by a rapid improvement or whether we face a long period of lower activity, with recovery developing only slowly as time moves on. Basically, this broad spectrum of forecasts seems to be due mainly to differences in evaluating the prospects for various key sectors in our economy—business inventories, business investment outlays, consumer demands for automobiles, houses and goods in general, and the impact of actions by Government.

The Consumer

Consumer spending has repeatedly been a source of strength in our economy. This was the case not only in the early postwar period, but again in 1954 and 1955, when vigorous buying of new homes and automobiles sparked the recovery and led to a renewed business boom. Proponents of the optimistic school of thought point to the fact that incomes are cushioned by unem-

ployment benefits and other social programs, that some four million workers are scheduled to receive automatic wage increases in 1958, and that further pay rises are in prospect. Consequently, they reason, consumer spending should continue strong and will provide a powerful incentive to recovery as soon as confidence is restored.

The more skeptical students of the business picture, however, note that consumer spending almost always holds up well in the early stages of a business recession, but that spreading layoffs, shorter work weeks and inroads on savings cannot help but put a further crimp into consumer buying especially of durable goods, which has already suffered a sharp decline.

Since the demand for consumer durable goods has an important effect upon those industries that have suffered the sharpest cutbacks in the current recession, their outlook, especially for the automobile industry, is in the forefront of attention. Passenger car sales have been in a sinking spell in the past few months and have been running some 30% below a year ago. Despite steep reductions in output, dealers' stocks are at record heights and further production cutbacks are expected. Some observers are nevertheless reasonably confident that a good seasonal rise in sales will develop soon, and that the industry may still sell some 5½ million cars this year. One factor bolstering their confidence is that more and more consumers are now making their final payments on automobile debt incurred during the banner year 1955 and thus will once again be ready to enter the market.

The more cautious business analysts, however, place greater weight upon the current sag in incomes and employment, the effects of these declines upon the willingness of consumers to increase their debts at this time; also, they suggest that the public is not overly enthusiastic over the 1958 models and in this economic environment is sensitive to their higher prices. Consequently, they doubt whether sales may reach even the 5 million mark this year, compared with 5.8 million in both 1956 and 1957.

The outlook for homebuilding is likewise controversial; opinions are divided between those who expect increased availability of credit and easier financing to stimulate greater activity and those who question whether there will be sufficient demands to take the new houses off the market. In 1954, assisted by the greater availability of money and widespread liberalization of lending terms, housing starts advanced materially despite the slowdown in business, and many believe that an improvement in housing may again provide support to the economy in 1958. This point of view is encouraged by the expectation of yet easier financing to come, the spurt in applications for FHA appraisals in January, and the prospect of further action by government to make more funds available, at liberal terms, for the purchase of homes. Others, however, doubt whether buyers can be expected to show greatly increased interest in new home buying as long as employment and income prospects are questionable, especially in view of the large additions that have already been made to the housing stock in recent years and the rapid growth of mortgage debt.

The Business Sector

The case for a speedy end to the recession rests in large part on the outlook for business inventories. It is frequently pointed out that inventories, in terms of physical volume, were not excessively high even at their 1957 peaks, that wholesalers and retailers have been following cautious inventory policies for over

a year, and that on the manufacturing level considerable liquidation has already been achieved in the past few months, especially in stocks of basic materials; steel users, for example, have been living off their inventories for quite some time. Consequently, it is believed that inventory liquidation in the aggregate cannot persist for long, the more so as defense orders are rising. The economy may thus soon be relieved of the pressures of inventory reductions; some rebuilding of stocks is anticipated within the next few months.

Against this stands the view that some inventories particularly in manufacturing are still unduly heavy, and that the current weakness in spending on durable goods, both by consumers and by business, makes further liquidation a reasonable prospect. Also, it is emphasized that inventories rarely lead a business upturn; rather, they follow a revival of sales and are not accumulated to any significant extent—barring international upsets, of course—until recovery is well under way.

The direction of business spending on new plant and equipment, at least over the near term, is one of the less debatable factors in the business outlook today; there is widespread agreement that such spending is on a decline. However, some economists hope that a turn for the better will come before the end of the year, while others hold that we have just concluded a major investment boom and that the downtrend in capital expenditures may last far longer and carry further than current surveys of spending plans would indicate. The optimistic point of view cites the underlying growth trends in the economy, the huge and expanding outlays for research and new product development, and the constant pressure to modernize facilities in order to meet competition and check rising costs. The more somber outlook, on the other hand, is bolstered by the sharp drop in orders for machinery and new industrial building, falling business appropriations for new capital projects, and increasingly frequent reports of stretchouts and cancellations. With profits squeezed and capacity likely to remain excessive in many major industries for some time to come, it is stressed, there may be little inducement to embark on further ambitious capital expansion programs for some years to come.

The Role of Government

While the private sector of the economy is agreed to be in a sag, at least for the present, it is equally evident that demands by government, both on Federal and on state and local levels, are in a rising trend. There is no dispute over the strength in public construction in 1958. State and local construction projects continue to expand, the highway program is picking up speed, military construction will rise sharply, and the Federal Government is planning larger public works. The big question seems to be whether, beyond these reasonably assured prospects, the Federal Government will initiate a sharply increased public works program, and how long, even if this is done, it will be before the impact of such a program is felt in terms of industrial activity and employment. The skeptics point out that since the construction industry as a whole is continuing to operate at a high rate of capacity, increased programs may merely create backlogs and bottlenecks without significantly helping employment and activity in the manufacturing sector of the economy, the more so as a great deal of construction machinery has been produced in advance of need.

Of perhaps more immediate interest to industry is the prospect of increased defense orders and expenditures. Major procurement

contracts are on the rise, and although present plans of the Defense Department envisage a lower level of new orders in the second half of 1958, upward revisions are deemed likely. There is no doubt that this will be of important help especially to industries connected with missile development and production. The optimists, as already noted, place major importance on this prospect; they expect rising orders to play a major role in improving the inventory situation as a whole and curbing the downtrend in plant and equipment programs. The pessimistic view of the future, on the other hand, is inclined to minimize the the impetus of the modest increase in defense outlays now being budgeted, especially since the increased military procurement is not likely to be of much benefit to important industries that are now in the doldrums. Nor can military spending be expected to trigger an important rise in business outlays on plant and equipment.

Sharp debate, likewise, surrounds the advisability and possible effects of a tax reduction. The prospects of tax relief have increased measurably in recent weeks, and if economic indicators continue downward, a tax cut would seem a reasonable prospect. As to the consequences of such action, however, opinions are divided.

Students of the economic scene generally agree that a tax cut would soon be translated into higher outlays for goods and services, but many doubt that the money would be spent in those sectors of the economy most in need of stimulation, namely, the durable goods industries or, for that matter, home building. It is contended that spending on new homes and automobiles, except in marginal instances, is influenced more by current and prospective employment and incomes rather than by the relatively minor increase resulting from a smaller withholding of income tax in the weekly pay envelope. In any event, any support to the economy from this source is unlikely to show up until the latter part of the year.

The International Economy

Finally, growing attention is being paid to foreign economic developments and prospects. The investment boom seems to be waning in many countries abroad as well as in the United States, prices of basic raw materials have declined in the world markets, competition in foreign trade is becoming keener and many countries are once again troubled by balance-of-payments problems. As a result, United States exports have already slipped, and while net exports are not large in relation to our economy as a whole, the effect on some companies and industries may be fairly pronounced. Looking ahead, those who take a cautious view of the American business outlook emphasize that, unlike 1953-54, United States business cannot now expect support from active and sustained economic expansion abroad, and that if world economic conditions become more troublesome, as well they may, this would add to our problems at home.

A Personal View

At the risk of oversimplifying or misrepresenting important qualifications and reservations of individual economists, the divergent views on the current business situation may now be summarized.

The optimistic school of thought foresees steady demands of consumers, augmented by increased expenditures on defense, clearing up the inventory situation in fairly short order. Thereafter, the rising trend of Federal, state and local government spending, strength in home building, and

possibly renewed accumulation of business inventories is expected to impart a sufficient boost to the economy to overcome the effects of reduced outlays on plant and equipment. In fact, with increased demands mitigating the problems of excess capacity, business managements may soon resume their long-term expansion programs, so that the downtrend in capital spending should prove moderate and brief. In sum, this position holds that the forces of long-term growth are strong even over the near term, that the present recession is no more than a minor adjustment, and that expansion will soon be under way once more.

Proponents of a more pessimistic view again disregarding many differences in individual positions and emphasis take a more serious and fundamental view of the recession now in progress. By and large, they interpret it as a basic and perhaps unavoidable readjustment after a vigorous and sustained capital investment boom during which productive capacity has been materially overexpanded in many important industries. With consumers well supplied with homes and goods of all kinds, individual indebtedness pressing upon many family budgets, and the employment outlook less assured, significant adjustments in costs and prices and a shift of productive resources and labor among industries may be required, and considerable time may have to elapse, before the economy moves uphill. Government spending and tax relief, in this appraisal, are likely to help moderate the decline but cannot be expected to forestall the inevitable aftermath of the sustained overinvestment, overproduction, overbuying and overborrowing of recent years. As in the optimistic camp, of course, there are many differing predictions regarding the length of the downtrend, the levels to which it may carry, and the timing of recovery.

At the moment, there is some evidence to support both positions, and it would be wise to conclude this review of conflicting opinions without injecting a personal interpretation of the business scene. However, since this would beg the assignment, I shall, albeit reluctantly, express some personal judgments regarding the outlook.

Sees Deeper Recession

I suggest that the current downtrend in the economy is likely to be somewhat longer and deeper than either in 1948-49 or 1953-54. One reason is that the current decline in business spending on plant and equipment cannot be expected to end soon. Profit margins in a great many industries are being squeezed conspicuously, and the pressures of excess capacity, rising production costs, and keen price competition presage further depressing profit statements in the months ahead. Moreover, even with new expansion programs being cutback, capacity continues to grow substantially as the result of projects already in progress. In some instances, costs and competition may spur capital outlays designed to improve efficiency, but on balance, it seems likely that total plant and equipment expenditures will continue downward through the end of the current year and possibly into 1959. Another business investment boom comparable to that of 1956-57 is not in sight for several years to come.

Consumer Cannot Do It Alone

Furthermore, I fear there is little immediate prospect for a revival of economic activity from the side of the consumer. Outlays on nondurable goods and on services should hold up fairly well. This will provide important support to the economy, but it is not likely to spark an upturn in business. For the more volatile in-

dustries such as automobiles and other durable goods, the outlook is less encouraging. These lines usually do well when incomes are advancing; with consumers now well stocked, unemployment up, personal income static or sagging, and individual indebtedness high, it is difficult to see an upsurge of spending on durable goods in the offing at this time. Similar considerations cast some doubt also upon the prospects for a lusty housing year ahead; we may be doing well if the rate of home building in 1958 exceeds that of last year by even a small margin. Moreover, I question whether greater public spending or tax reductions would substantially affect the outlook for consumer durable goods over the near-term.

The prospects thus are that downward pressures on aggregate production and output will predominate in the months ahead, including pressures from some further liquidation of business inventories; there is no evidence as yet of a bottoming out in economic activity. When the decline does taper off, therefore, it will probably be moderately below present levels. However, although this point of view is clearly at odds with the optimistic anticipation of speedy recovery, I am equally in disagreement with those who see in the present recession the prelude to deep and protracted depression.

The recent expansion period, unlike some previous booms, has not been accompanied by widespread speculation in securities, commodities or real estate based on short-term credit. Nor is there any real prospect of forced liquidation of short-term credit on a large scale, such as accentuated the declines during business recessions earlier in our history. The Federal Reserve since last November has made use of all three major instruments of credit policy—open market operations, the discount rate, and changes in reserve requirements—to reduce the cost of credit and supply funds to the market place, and interest rates have recently experienced the sharpest drop on record.

Furthermore, our economy now features a variety of Government programs which help cushion the impact of unemployment upon personal incomes and, hence, upon spending. These so-called stabilizers have not prevented—nor were they designed to prevent—the development of a business downturn, but they may be expected to reduce the chances of cumulative pressures which led to spiralling declines on some previous occasions. Finally, there is undeniable evidence of support in the current strength of total construction activity as well as in the defense program, which also argues against the probability of a sustained drop.

Doubts Depression Level

Obviously, there is always some risk of a downturn carrying further than can reasonably be anticipated at any given moment; there is no reliable way to gauge the course of inventory liquidation, the market for homes and passenger cars, the effects of Government action, or the many contradictory influences acting upon business investment programs. Nor would it be a service to deny that the economy today seems more vulnerable to the forces of contraction than was the case in the previous two postwar recessions, when many deferred demands were still waiting to be filled. Nevertheless, the odds are against a spiralling decline to depression levels.

Sees Halt This Year

Weighing the probabilities, therefore, it seems reasonable to assume that the decline in economic activity will come to a halt sometime this year, although perhaps not in the months immediately ahead. As to the next ques-

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"What Price National Strength"

allies in NATO and provide them with nuclear weapons and delivery systems.

(7) Civil defense must be part of our overall strategy, and a program of fall-out shelters and a warning system must be undertaken.

(8) While a meaningful reduction of armaments must be preceded by a reduction of tensions and a settlement of outstanding issues, concrete proposals to limit any wars that might be forced upon us should be introduced into negotiations on reductions in forces.

\$3 Billion Annual Increase

It is obvious that such an effort will be costly. The Panel did not make precise budgetary estimates. However, it did state that the programs I have just outlined would require successive additional expenditures on the order of \$3 billion each year for the next several years. And it saw no hope of a leveling-off in military expenditures before 1965. There might be some offsetting savings on defense in the form of reductions in expenditures on some existing military programs, or in the more economical operation of the defense establishment, but those are problematical of realization.

Nevertheless, in the words of the Report: "The price of survival, . . . is not low. This Panel is convinced, however, that the increases in defense expenditures are essential and fully justified, provided that the greater expenditure is coupled with increased efficiency. We can afford to survive."

Now, let us turn from the purely military report to other areas under consideration by the Special Studies project. For example, the Panel on Foreign Economic Policy, on which I have the pleasure of serving, has stressed in its discussions the importance of continuing the Reciprocal Trade Agreements Program, of making our technical and economic assistance programs more useful and of encouraging the flow of private investment in to overseas projects.

Economic and Social Objectives

The Panel on Domestic Economic and Social Objectives has been considering our needs in such areas as urban rehabilitation, social welfare, agriculture, resources and private incentives. At the same time, this Panel has been studying the cost of implementing the recommendations of all the Panels, and has been examining the ability of our economy to cope with the vast array of problems that seem to lie ahead in the next fifteen years. I might point out that this is the very period when members of this Junior Chamber of Commerce will be taking the leadership in our national life.

It obviously would be impossible for me to outline all the issues and policies discussed by the several Panels. Moreover, the Reports are approaching the final state of preparation, and present plans are to publish them as each is completed, as was done for the report on International Security. However, I would like to take a little time to present certain ideas

tion—when business will resume its advance—I doubt whether speculations are of much value until the current decline has given clear-cut evidence of bottoming out. When there is evidence that the economy is approaching the end of the downtrend, an appraisal of the recuperative forces then in prospect is likely to be more informed, more meaningful, and perhaps more enlightening than the sheer guesswork that any such attempt would now represent.

which have become clear to me during the time I have been sitting as a member of the Panel on foreign economic policy.

Short-Long Run Conclusion

My first conclusion may seem somewhat paradoxical in an atmosphere dominated by news of production cutbacks and rising unemployment. For I feel that our major long-term problem will be how to produce enough to meet the demands that inevitably will be facing us in most fields.

Certainly everyone agrees we should make every effort to check the current recession. And much is already being done on the monetary front through the steps taken by the Federal Reserve to ease credit. Moreover, both Congressional spokesmen and officials in the Executive Department have indicated that the potent anti-recession weapon of tax reduction will also be brought to bear if need be.

However, our longer term problems may not be ones of excess capacity; rather they may be to find ways and means to produce enough to meet the pressing needs for greater expenditures in such fields as: Defense, International Aid, Education, Resource Development, Private Capital Investment, Urban Rehabilitation and Highways. This does not mean that such demands will automatically appear to end any recession, or that we will not have other pauses in our forward movement like the current one. In the longer pull, however, the more persistent problems may well center around how to avoid inflation.

Continued Economic Growth

A second major impression that I have gained is that our economy has the potential to meet an amazingly large share of the demands that seem to lie ahead. Ours has always been a growth economy. Our institutions have encouraged individual initiative and enterprise and have provided the incentives to support a long-term growth of our production. In the period from the 1880's to 1930, our production grew at an average annual rate of about 3%. I am told that in the postwar period, we have bettered that growth rate. Total production has followed an upward trend of some 4% per year.

Economic growth is not automatic, nor does it follow an even path, as the current period indicates. We have much to learn about the problems of so arranging our affairs as to encourage growth and avoid the pitfalls of both inflation and recession. I, for one, believe that in recent years we have been making encouraging progress in this regard, although quite obviously we are far from reaching our objectives.

If we can manage to keep our economy moving ahead along a general growth trend, as I believe we can, we should be able to accommodate those economic, social and military needs which will be most pressing. If we achieve an average growth rate of 4% a year between now and 1965, we will have an annual increment of about \$20 billion of new production to apply against our growing requirements.

This would enable us to increase our national security expenditures by about \$3 billion each year, and to spend more on education, capital investment, health and welfare. It is a remarkable fact that if we maintain our economic growth, we will be able to afford to meet these requirements and still keep private living standards rising. To be sure, we would need to forego any major reductions in the burden of Federal taxes, and some moderate in-

creases in tax yields, principally at the state and local level might be necessary, but these would seem to be small penalties compared to what we would achieve.

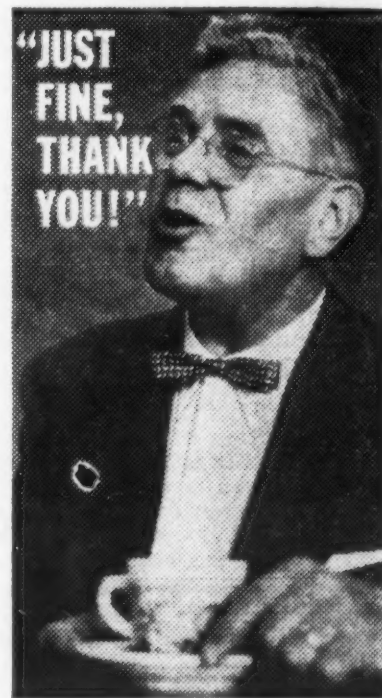
To me, it is most significant and encouraging to learn from the Reports that we can hope, if we continue our economic growth, to accommodate most of the urgent needs we face for enlarged expenditures on national security, and at the same time provide for increased expenditures for education, private investment, health and welfare, without any sacrifice in our living standards. To be sure, we will be unable to do everything that everybody wants at once. We shall have to make choices among deserving programs as we have always had to do.

Steps to Encourage Growth

This brings me to a third major conclusion—namely that maintaining our historic rate of economic growth is vital to the future strength of our country. For only a growth economy can cope with the problems it faces with the prospect of reasonable success. Issues that can be handled with relative ease in an atmosphere of growth might prove impossibly difficult in a stagnant economy.

Can we keep up this vital rate of economic growth? No one can prophesy the answer to such a question. Yet, it would seem that there are a number of steps that might be taken to encourage such growth. These include: a revamping of our tax system to reduce the burdens on initiative and enterprise, and on saving and investment; better utilization and training of our manpower at all levels; continued support of research; and measures to ensure adequate supplies of raw materials and fuels at reasonable cost. For example, one of our serious problems concerns the availability of water which was always the classical example of a "free good."

It seems to me that these general conclusions offer great hope. They emphasize, to be sure, the fact that we face complex and difficult issues. Yet if we manage our affairs with prudence and foresight, we have the ability to deal with these issues and move ahead into a situation of peace and very great material prosperity.



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AMERICAN
CANCER
SOCIETY

Continued from first page

Overall Economic Strength Of the Television Industry

substitute for sound appraisal in depth. And, believe me, there is considerable depth in the television picture, if one takes the time to dig into it, and if one lifts one's eyes from the immediate statistics and directs them at the more distant horizon.

Let's examine the record of the past which, however remarkable in magnitude, paradoxically is being transferred, like a flimsy decalcomania, on a canvas of seeming instability, poor economic texture, and, apparently, limited scope. I say paradoxically because the record of the economic power, which television exhibited and generated since it burst on the American scene after World War II, merits more than exile into statistical limbo and the status of all-past-and-no-future. The television giant may have become somewhat muscle-bound in the accelerated process of reaching adolescence, which is his stature today, but he certainly has not been so weakened by a smoothing and relaxing of his sinews since 1950 to warrant his being scratched as a serious economic contender, either within the broader electronics picture or in the even larger industrial race.

What hath television wrought (to paraphrase an historical utterance) in the past 10 years, which comprises virtually all the life it has had up to now?

Let's try to put together the several parts of television and try to come up with a composite picture of what, to me, is no more than a slumbering giant—certainly not a debilitated one.

Describes Television Industry

Entertainment television, which is the most heralded portion, breaks down into three elements each of which contributes to the portrait we are seeking. In this is television set manufacturing, television broadcasting, and television installation and service. Industrial television, which holds forth a tremendous potential for the future, is the second major division and it breaks up into two parts: closed-circuit television in industry and closed-circuit television in education and related applications.

We have then, really, five parts to what I shall term the television "industry."

At the top of the list is television set manufacturing, which has produced almost 60 million sets and poured more than \$11.5 billion into the economic stream during the past decade. At the end of 1957, there were an estimated 47 million television sets in use, of which 45.6 million were in 41.3 million homes and 1.4 million in public places.

The American home ceased to be a one-set home sometime ago as the attraction of television for different members of the family virtually forced a doubling and, to a much lesser extent, even a tripling of TV home facilities to satisfy the varying and often conflicting family viewing tastes. This situation gave a strong impetus to the demand for portable TV sets, which now account for about 29% of production. In many cases, older sets were retained to serve the individual family's second-set requirement, thereby adding another factor to the future replacement market. It is estimated that there are 3.8 million second sets in the homes today, but no figures are available on third sets.

To serve these 47 million TV sets in use today is the second element in the entertainment television picture. There are operat-

ing now 523 broadcasting stations, of which 325 are equipped for color telecasting. During the decade of television existence, these stations contributed approximately \$5 billion to the nation's gross product, which is the sum of the country's productive and service effort. In 1957, television broadcasting revenues reached a record high of \$1.3 billion, continuing an uninterrupted climb since 1946 when such revenues amounted to only \$500,000.

The third element in entertainment television is installation and repair. During the period we have been considering, the American public has spent about \$10 billion in order to install and thereafter maintain its television sets in working condition. These expenditures for installation and service have also been in a continuous ascending trend and in 1957 reached a record total of \$2.4 billion, or nearly three times the level of only seven years ago.

Stronger Set Manufacturers

These three elements in the entertainment phase of television have, therefore, contributed an aggregate of about \$26.5 billion to the national economy in about a decade, of which about \$5 billion represented the 1957 contribution. For the near-term, one may reasonably expect that the level of operations in entertainment television will be close to that of last year, possibly a little higher in 1958 if the anticipated upturn in the general business picture forestalls any material reduction in corporate TV advertising outlays. Adding up the factors of saturation (about 84% of American homes have television now), new family formation, the growing demand for second and third sets, and the normal replacement of old sets, an annual sales level of 6-7 million sets should be about minimum. Prices should run at pretty much the current level.

There is, however, an important difference in the situation as it exists today and as it existed in, say, 1950 when television set manufacturers cut up a pie valued at almost \$1.4 billion, the peak in the industry's brief history. At that earlier date, there were 140 firms involved in the production of about 7.5 million TV receivers. In contrast, only 51 companies were responsible for the output of 6.4 million sets, worth about \$1 billion at the factory door, in 1957.

Obviously, the smaller number of manufacturers today are in a better position than were the larger group in 1950, even though output is at a lower level and sales are bringing in about 29% less money. In the manufacturing phase, therefore, television is leading from economic strength in 1957, rather than from frenzied enthusiasm which brought about the fastest penetration of a mass market by any product in industrial history.

Lid May Blow Off

At the present moment, entertainment television may be likened to an oil well which has been capped to hold back its super-charged treasure of black gold. Any one of several developments may blow the lid off tomorrow, or the next day, or the next year—no one really knows when.

Color television is largely a matter of price today. Output in 1957 is estimated at about 200,000 sets, an increase of 50,000 over the 1956 production, but retail sales have been anything but satisfactory. However, over the long run it is not hard to foresee real growth in this medium since it

contains many natural elements of attraction once the public becomes more fully aware of its advantages over black-and-white. The potential in this area is certainly suggested by RCA's more than \$100 million investment and the fact that, only recently, there was an indication that other major manufacturers were accelerating their up to now token participation in color TV.

Mural television, a system which would utilize a screen no thicker than a picture frame hanging from the wall, is not far off. Experimental models have been demonstrated and this would naturally lead to a consideration that in the future television screens would also be larger, bringing clearly-defined, life-sized pictures to the viewer.

Concurrently with other developments will surely come the fully-transistorized television set, not only portable, but drawing limitless power from solar cells which would bring the energy of the sun to chargeable batteries. This would open up another tremendous market outside the home: automobile TV, which has already been shown in the 1958 Oldsmobile models in experimental form. At first these sets will become available on a limited basis, for the more expensive cars, but it is not out of the realm of possibility that eventually auto TV could become standard equipment on America's more than 60 million cars in the future.

Finally, there is the as yet unmeasurable impact on television which may come from pay-as-you-see TV. This is a very controversial subject and in the pros and cons has been obscured the very mathematics of the medium which merits more objective consideration. As one analyst recently put it:

Pay T-V

"The economics of fee TV are impressive. Thus, if only 10% of all set owners pay \$5 monthly, this fractional fee income equals \$240 million. This is almost one-fourth of all income currently paid by all TV advertisers. Second sets permitting a choice at the same hour, public place sets, theatre projected events, would all be added to such home fee TV income."

Whether pay TV, in whatever form, ever comes will depend much more on the public's disposition than on the outcome of the current tug of war between the two warring elements in this picture. I am sure that one of the proponents of pay TV will come up with a demonstration of this medium that will capture the imagination of the public and create a strong demand for such service. When that happens, the public will get what it wants and there will be a mad rush to provide the service both by present proponents and also by current antagonists. And when that happens, entertainment television and its constituent companies will undoubtedly benefit.

Educational and Industrial Television

There is not as much to be said for industrial, or closed-circuit, television, for the scope of this phase of the field is not nearly as defined as is the case with entertainment television. Still, tremendous strides have been made, although the economics of this picture are not as impressive. According to the well-informed "Television Digest," industrial television equipment sales amounted to \$5.5 million in 1957, or double the 1956 figure. Estimated for 1958 is a total of \$10 million.

The greatest immediate growth lies in the area of educational closed-circuit TV. Some 200

"TV—The Second Decade," by Irving Kahn, in "The Analysts Journal," February, 1958.

schools and other institutions are presently using it on a regular basis and an additional 100 systems are slated for installation in 1958. The largest single system to date is being readied for the September, 1958, school year in Washington County, Md., and will cover 18,000 pupils in 48 schools. Other systems are now in operation in Atlanta, Cincinnati, Detroit, Miami, Norfolk, Oklahoma City, Philadelphia and Wichita. According to one report, Alabama, Nebraska and Oklahoma plan to extend closed-circuit educational TV on a state-wide basis.

Just, how far educational closed-circuit TV will go, it is hard to estimate. Certainly a need exists to utilize to the fullest the capabilities of America's short-supply of teachers and this medium appears to be the most satisfactory and most immediate answer. As Mr. Kahn, whose article on television has been noted here, said:

"The shortage of teachers is too well accepted to require proof. Most teachers are hired and paid for by local taxing groups. The same teacher can instruct several classrooms simultaneously with one camera and a receiver for each classroom. The one time cost, installed, of their equipment is usually less than the annual cost of adding a new teacher. With no nearby prospect of a quick growth in teachers, TV teaching should grow. It is also a way to use the most experienced and effective members of the faculty."

Growth Just Beginning

There is perhaps an outside limit to the eventual applications of television to education, but not so in the other segment of what we term industrial TV as distinguished from entertainment TV. In industry and commerce, the scope of closed-circuit use knows no limit and its growth is barely beginning today.

The industrial and commercial field appears to have the greatest potential as closed-circuit systems permit observation of processes and operations which are either not possible or not as effective in any other manner. Closed-circuit TV installations are multiplying daily in steel mills, chemical plants, metal refining and petroleum processing, where monitoring of operations is made possible and effective under conditions which otherwise would be impossible or at least extremely hazardous.

Closed-circuit TV has been applied to railroading, with the largest such system now installed at the Pennsylvania Railroad's terminal in New York City to serve its ticket sales and reservations facilities. The medium will be found in use in hospital operating rooms, in laboratories, and only recently General Electric announced that it had developed a closed-circuit, three-dimensional color TV system for remote servicing of reactors.

Serving as an extension of human sight, closed-circuit television will expand greatly during the coming years, said Dr. Vladimir K. Zworykin, television scientist and honorary Vice-President of RCA, a year or so ago. Dr. Zworykin told a group of students:

"Apart from the many uses of closed-circuit television in education, industry and research, we can envisage it in many other fields, such as an aid to the housewife, giving her visual access from the living room to the kitchen, nursery, play area and entrance way; and to the farmer, providing over-all views of the stables, yards and out-buildings. Your generation may well witness an expansion in this field which exceeds the phenomenal growth which we have experienced in broadcast television."

Even though small in economic stature compared to entertainment television, closed-circuit TV has already produced an off-shoot industry of modest but rather impressive proportions. It is estimated that in 1957 approximately \$2.75 million was paid out in service fees to firms specializing in the handling of closed-circuit business and other meetings. As near as can be determined, there were slightly over 30 events broadcast in this manner and these reached about 125 cities. There are 12 companies which offer their services in arranging closed-circuit telecasts for business and other groups, indicating that the demand for such service is more than just passing.

I have not attempted to go into greater detail on either of the two broad segments of television since space does not permit. Television is an "industry" with an invested capital ranging well above \$1 billion in 1957. It must be admitted that it is an enterprise strongly buttressed in addition by research and development programs which, though heavily oriented at the moment toward military needs, are nevertheless the breeding places for the exciting promises of the non-military future.

Television manufacturing is by and large in good sound hands, and the marginal producers have been pretty well weeded out by the competitive situation existing during the last two years at least. If the economic up-turn develops, as it has been anticipated in many quarters, certainly there is little to cast a shadow over broadcasting operations, or to slow the progress being made in industrial TV. In the light of this, and even if we ignore what has happened in the past in television, the promising future and the present overall economic strength of the industry is more than sufficient reason to reopen the book and take a second look.

N. Y. Stock Exchange Honors E. C. Gray

Edward C. Gray, Executive Vice-President of the New York



Edward C. Gray

Stock Exchange, received tribute from the Board of Governors on his 40th Anniversary with the Exchange. He joined the staff of the Exchange in March, 1918.

Allen Northey Jones

Allen Northey Jones, partner in the investment banking firm of Morgan Stanley & Co., died March 9 at the Peter Bent Brigham Hospital in Boston, Mass. after a short illness.

In September, 1935, Mr. Jones was one of a group of partners and associates of J. P. Morgan & Co. and Drexel & Co. who formed the firm of Morgan Stanley & Co. Incorporated. He was a Vice-President of that firm until 1941 and was a partner of Morgan Stanley & Co. from 1941 to the present time.

W. R. Hogsett Opens

ST. PETERSBURG, Fla.—W. R. Hogsett is engaging in a securities business from offices at 1216 Jackson Street, North.

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Automation: Key to a More Productive Economy

oil pressure information to the pilot.

These versatile little devices, hooked in pairs, in series, or in all kinds of combinations, are found by the hundreds in the new high-performance airplanes—at least 350 in a modern bomber. They are used not only in the instrument systems but in all of the other automatic systems, such as the automatic pilot or flight control system, engine control, air conditioning and pressurizing, and numerous others. The synchro principle further permits an electrical signal to tell some piece of power equipment to go into action to raise the landing gear, lower wing flaps, move the rudder controls. The power equipment, in this case, is called a servo-mechanism, a term that has come to be associated with a broad area of automation.

Of course there are many automatic control systems in airplanes and in certain types of manufacturing today that are much more sophisticated than the process I have just described. But I think you see the point that in meeting the problems of aviation, know-how was evolved that now applies to many automation techniques and devices.

A new jet airplane, for instance, is so fast that you have to have a completely automatic system to measure, or meter, precise ratios of fuel and air to the engine or it will "flame out" or stall. So you have a system that automatically senses the speed of the intruding air, its density, temperature, humidity and several other factors, and instantly computes and supplies the proper ratio of fuel to make the engine operate at maximum efficiency. All of this is happening so fast that it would be impossible for the human pilot to "run it," even if he had nothing else to do. Here is a case where electronics and hydraulics not only does a better job, but does a job that otherwise could not be accomplished at all.

Let me cite another example of "airborne automation," a Bendix development called the Central Air Data Computer that coordinates a supersonic aircraft's whole "nervous system"—receiving and acting upon all atmospheric information necessary for supersonic flight. The Air Force has ordered \$7,500,000 worth of these devices for the Republic F-105 and McDonnell F-101B supersonic fighters. What this air data computer actually does is to make certain basic measurements of the air through which the plane is flying, correct these for errors in the sensing units that are caused by high-speed flight, convert them through computation into required information, and then distribute the information to all the automatic systems of the airplane. These systems include flight control, fire control, engine control, bombing and navigation, reconnaissance, and air conditioning.

An airplane flying at supersonic speeds develops some terrific pressures and temperatures around it, and it is the job of the air data computer to sense these and convert its findings into control information. The fire control system needs, for example, instantaneous computations of air density multiplied by the speed of sound. From its own basic measurements of temperature and pressure, the computer accurately calculates air density and the speed of sound, multiplies these two figures and then sends the final answer to the system.

(I might add that this device has 46 synchros, 511 gears, 820 ball bearings and a total of 2,781 major

parts—with most tolerances held to .0001 of an inch.)

One of the most exciting examples of "automation in the air" is the Air Force's Convair new B-58 bomber called the Hustler. This airplane is so fast that it would be impossible for man to fly without a control system that "thinks for the pilot." The range of aerodynamic forces encountered by this airplane is such that the control-surface movement needed to induce a given maneuver may vary from 20 degrees to 8/10 of 1 degree. Moreover, because of its extreme speed, the hydraulic actuators, or "servo-mechanisms," that move the control surfaces require 6,000 times more power than is needed to move the controls of a modern airliner.

The Hustler's control system begins in its long, needle-like nose where sensing units pick up atmospheric data. The computer electronic amplifier in the control system uses three miles of wire and 140 transistors. It computes the effects of speed, altitude, weight, center of gravity, altitude, and temperature, and translates them into control commands. A 267-pound device called the Power Control Linkage Assembly permits the pilot's easy control-stick motions to be translated into aerodynamic control-surface motions that conform properly with all of the critical air-environment and flight attitude factors I have just mentioned. Without this automatic system, the slightest "over-control" by the pilot might tear the plane to pieces.

Guided missiles, of course, operate as a result of sensing and actuating devices for their electronic and hydraulic "packages" that guide them to their targets. Missiles also involve a specialized form of electronic communication that is called telemetering which I will mention later.

These are just a few of the reasons why aviation has made the broadest uses of the electronic processes that are automation in themselves. Today's aviation is proving to be a development source for many such techniques which subsequently will have great industrial and scientific applications.

Time does not permit a detailed review of the many ways automation has been applied to machine tools, processing machines, and to packaging, handling and transfer equipment.

Most of you have probably seen one of automation's most interesting accomplishments—the automatic bowling pin setter. It uses a large number of automatic principles, including conveyor, transfer, distribution, switching and electric eye control.

I am sure one of your first views of automation was the cigarette-making machine in a New York window. Today these machines make, package and carton 150 packs per minute. Even the simple pretzel has gone automation, and we have a machine that pulls, forms, twists the dough, bakes the pretzel and packages them—50 packages per minute. And the toothpaste you use so frequently depends entirely on an automatic process that fills, cleans, folds, closes and packages at the rate of 150 a minute.

A good example of what has been called "Detroit automation" is the Chrysler Qualimatic engine plant. It has hundreds of machines operating almost as one and can turn out 3,000 engines in 24 hours. The plant covers 600,000 square feet and cost approximately \$50,000,000.

Electronic Tape Control

I would like to describe in a bit more detail one of the latest forms of machine automation utilizing what is called electronic numerical control, or tape control.

This new example of automation built by Bendix for Martin Aircraft under an Air Force contract is a 50-ton, three-axis milling machine with associated electronic equipment that virtually makes intricate parts from blueprints.

The tape-controlled process was first used in mass production by Bendix to solve a bottleneck in the manufacture of a small, intricate three-dimension cam that is one of the key parts in a jet engine fuel metering system. In this instance, production of one "master cam" was previously a one-man job requiring from 10 to 14 weeks of highly skilled work. With the tape-control process, that operation can now be completed in from two to four days.

In the tape-control process, an engineer puts down on a process sheet the dimensions of the part to be made, as determined from the blueprint. These figures are then typed on a special typewriter called a Flexowriter that produces at the same time a preliminary tape on which the blueprint information is punched in code. This preliminary tape is then fed through a special electronic computer to produce the actual control tape which represents the actual piece to be made. The finished control tape is then played back through the same computer and actuates the special controls on the milling machine, or other types of machines, to produce the piece itself—one or many.

The three-axis cutting motions of the machine are continuously monitored by feed-back controls capable of detecting a motion of as little as two ten-thousandths of an inch. "Feed-back," a word you will be hearing with increasing frequency, is part of a closed loop system in an automated device that brings back information about the condition to be controlled for comparison with the desired specifications, or target value.

Martin is using this newest example of heavy-industry automation in making parts for the TM-61 Matador tactical missile, with quite remarkable savings in production "leadtime" and tooling costs. Twenty-two additional milling machines employing this Bendix tape-control system were recently ordered by the Air Force.

Changing the "production run" on a tape-controlled machine tool is a relatively simple matter of changing the tape. Then, if you need to make an additional quantity of something you made last month or last year, the tape for it—which can be stored indefinitely—need only be pulled out of the file. If you want to change the design at some point, you can splice in a new section of tape covering the change. In the event of a national emergency, duplicate tapes can be made and sent all over the country to plants that have similar tape-controlled manufacturing processes.

To look beyond the defense industries, I think it is apparent that this process will have numerous other applications. In big manufacturing operations, such as the automobile plant, the tape-controlled process, or numerically controlled milling, could produce the dies for a major model change-over in about one-fourth the time now required. In small- or medium-size industries, the tape-controlled machine tool offers the prospect that small lots of parts—say a few hundred—can be made economically because intricate and expensive tooling is no longer required.

Electronics in Hospitals

I am not well enough versed in hospital operations to know just how far automation may have

already affected your operations and equipment but certainly we see electronics being widely adapted to marvelous new equipment for diagnosis, treatment and control. Industrial developments embodying precision, reliability and hydraulics are today being applied to such wonderful equipment as the heart pump. Those phases of hospital operation associated with communication, accounting and records of all kinds will benefit from similar applications in business, and I will mention such a possibility later.

One application of automation in industry that has already touched the hospital field—in this case electronic and ultrasonic—is the new ultrasonic cleaning equipment for surgical instruments and other apparatus.

We became interested in the advantages of using ultrasonics, or high-frequency sound waves, in Bendix to meet the problem of cleaning precision-built aviation components. Our system of ultrasonic cleaning operates with an electronic generator that converts ordinary 60-cycle electrical power into a current that has 18,000 cycles per second. This current is fed to a device called a transducer, which expands and contracts in sympathy with these high-frequency electrical impulses and thus transforms the electrical energy into physical energy. This energy is introduced into a liquid bath, usually water or a simple water detergent, that vibrates with sound waves that are beyond the range of human hearing. As the sound waves pass through the water they produce an effect known as "cavitation." Tiny voids or vacuums are created that implode, or collapse, effecting a microscopic scrubbing action that uniformly reaches every crevice, every blind hole, every surface of the part to be cleaned. In industry, lapping compounds and cutting oils that resisted vapor degreasing and cleaning with solvents have yielded readily to "cavitation" or "cold boiling." Today such cleaning equipment is being widely used for precision parts of all kinds, glass, mirrors, and even complete generator assemblies, radio chassis and entire jet engines. In many cases it is being built into automated processing lines.

Following the successful application of ultrasonic cleaning to industrial application problems, an ultrasonic unit specially designed for cleaning surgical instruments was developed and marketed in cooperation with the American Sterilizer Company. They are now in use in 12 major hospitals—including Passavant Hospital here in Chicago.

Experience in the hospitals using our ultrasonic cleaning unit shows that one load of 100 instruments can be completely processed every three minutes. This compares with approximately 60 minutes required for hand washing.

A typical example would be a hospital with four operating rooms which might average at least 60 surgical cases per week, or 3,000 in 50 weeks. With the normal kit now containing up to 120 instruments, the hospital might be required to clean over 300,000 instruments per year. Present methods indicate that 30 seconds is a practical minimum for inspection hand-scrubbing and re-inspection for each instrument, so that 2,500 hours of tedious, constant hand labor are required.

The ultrasonic cleaner now makes it possible to clean the year's, say 300,000, instruments from four operating rooms in only 150 hours. Ultrasonic cleaning techniques also have been extended to syringes, processing them at the rate of 1,600 per hour, and to such things as tubing and laboratory glassware.

These industrial applications point up some of the problems of automation.

In the first place, automation can occur only as fast as man can dream and devise the process and the machinery, and existing or new industries can design and produce the necessary equipment. But while these industries may expand very rapidly, there are other factors affecting the change-over.

Problems Limiting Automation

One of the most important of these is capital. Automation can occur only as fast as business firms can raise the capital needed to devise and build or purchase these fantastic developments of our inventive genius. Thus, the health of our security markets, the increasing pressure of taxation, and the growth of our personal savings will all play a major part in such industrial progress.

The industries which have made the most progress toward continuous operation in the past are the very industries which have the largest investment per worker.

Leaders are petroleum and coal with \$105,000 and \$28,000 assets per employee, respectively. Near the bottom are apparel and finished fabric products with assets per employee of only \$2,160.

The further question is "Will it pay for itself?" I wish I might offer a ready formula for this knotty question. It is no different, however, from such problems of the past, but somehow, the chips are bigger. We must also ask ourselves not just whether we can afford it, but can we afford not to do it in the face of today's severe competition and increasing labor costs. To assist in this evaluation many industries are establishing separate application study groups, and this approach may appeal to some of you with your particular problems.

Another key consideration in progress toward automation is the tremendous demand it creates for skilled manpower. The new equipment cannot be designed or built until there are sufficient trained people to accomplish this first step—and no business is going to make an expensive change in equipment or methods without first making sure that the trained manpower is available and their skills upgraded as required.

However, of all the factors that will determine the speed and direction of automation, one of the most important is what people think about it.

"Wholehearted acceptance" of automation is most common among representatives of management. Many go so far as to say it is absolutely essential to attainment of national goals.

Ralph J. Cordiner, President of General Electric, testified at hearings held by the American Congress to explore automation and technological changes that the United States will require an estimated 40% more goods and services by 1965 though it will have only 14% more people in the labor force. Industry must be encouraged, he said, to invest in more productive machinery and methods. Faster progress in the newer field of automation seems to us to be the only available solution to this program, Mr. Cordiner said, particularly in situations where we have exhausted the known economic possibilities in the more familiar field of simple mechanization.

Labor's Viewpoint

Where does organized labor stand in this all-important matter of public attitudes toward automation? George Meany, President of the AFL-CIO, recently expressed an attitude very close to wholehearted acceptance of automation. He was quoted as saying, in part, that "automation, coupled with atomic power, will change the lives of all of us" and "labor sees no reason to fear the time when factories will be run virtu-

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ally on an automatic basis, with machines operating machines." He went on to say that there will still be plenty of work to be done by people and "if it becomes possible to put into effect a shorter work week to maintain full employment, let us promptly accept this opportunity to lighten the burdens of the American people."

Most labor leaders seem to accept automation, but with some reservations. They agree that automation is a good development, but some of them insist that planned intervention—either through government or through collective bargaining is necessary to protect the people against the alleged bad side effects of automation.

I do not share the view that there are so-called bad side effects to automation, nor does history justify them.

Let me give another example of automated processes that, I believe, bear on this discussion and help to put this very broad subject into focus.

Telemetering Potentialities

In the operation of guided missiles, we have been using for some time a process known as telemetering. This involves the simultaneous coding, transmission and recording of as many as 500 types of information about the behavior of a missile in flight, all in say 2 minutes. The information is received on the ground in the form of electrical impulses that can be logged on charts and then evaluated. Now, we have a commercial application of this same principle in a system that we call digital transmission equipment. It is a new system of measuring and monitoring at a distance that permits "push-button" operation of complex industrial processes going one or even 100 miles away. It is applicable in almost any situation where it is desirable, or geographically necessary, to separate a human supervisor from the device or installation he is supervising. The system can operate over existing communications facilities, such as telephone and telegraph lines, and over very high frequency microwave radio bands. It operates on the digital computing system, measuring or sensing in terms of numbers, or coded "commands," which are translated into action, such as the automatic positioning of shafts, off-or-on switching of motors, pumps and valves, or measurements of temperature, pressure or other variables.

To illustrate how this system would work in a remote tank gauging system in the petroleum industry, an operator, connected by a single wire circuit to a tank farm, would "interrogate" a specific tank by dialing its number on his telephone dial. Instantly the level or volume reading of that tank appears in figures before the operator, and he or she then proceeds to interrogate any or all of the other tanks in the field to obtain their readings.

Telemetering has had a particularly important application to human behavior in flight. We have instrumented many pilots with equipment for automatically radioing back to a flight control station what is happening in flight to their pulse, blood pressure, temperature and various reactions.

I understand that his type of equipment has already been applied to hospital operative requirements in many locations whereby an automatic recording apparatus located in or adjacent to the operating room will give a continuous indication and record of a large number of human behavior factors. In this case, of course, the trans-

mission is by wire rather than by radio, but the same result is obtained.

The petroleum and chemical industries have many operations that are typical of the continuous-flow process which lends itself readily to automation, and these industries have, in fact, pioneered in the use of many automated devices for control of pipelines, refinery processes and the handling of chemicals where it is desirable to avoid coming into direct contact with them. Thus we see another important phase of automation in its safety possibilities.

Autometrology

In the factory, automation will affect not only direct machine operations, but perhaps to an even greater extent such auxiliary operations as inspection or quality and assembly. Automatic measurement and the use of feedback for machine control are essential to an efficient automatic process—it's called autometrology. Autometrology deals with highly sensitive gauging and measurement systems that "think," record, and control piece sizes through all stages of manufacture, assembly and inspection. Automatic, split-second signals from the gauging and measuring instruments are flashed back to machine tools producing individual parts. The signals sense and detect off-size dimensions as soon as they occur, or detect a trend, and automatically place a "stop order" on the machinery to halt production until corrections to the proper size are made. In the field of autometrology, we are frequently talking about very fine measurements or tolerances, even millionths of an inch. To give you an idea of how fine a measurement one millionth is, the engineers point out that when a fly lands on a railroad track (just between the ties) the rail sags one-millionth of an inch.

This business of precision measurement and the ability to make things, on a production-line basis, to finer and finer tolerances is very much a common denominator of technological progress. When James Watt devised his steam engine, we are told, he succeeded in fitting the pistons to a tolerance of "the thickness of a worn shilling," or about one-fortieth of an inch. Imagine the engine of your automobile if it were built to such crude tolerances. The automobile serves as a good example here because when you think of the wonderful performance and reliability of today's cars as compared with those of, say, 35 years ago, you have to realize that the performance you have today would be impossible without very finely machined parts that fit together and run together with incredible smoothness. Achieving these fine tolerances requires such measurement devices as the air gauge, where you test the perfection of a part by a method that measures how much air under pressure can get past the part when you fit it into a space of the required dimensions. So we see another asset of automation—quality improvement and control. I might briefly cite two examples of such equipment.

Computer Marvels

In discussing some of the more exciting developments in the field of automated manufacturing, I have not yet mentioned the computer as a tool in itself or the extension of automation by computers to one of its most promising fields, which is the office. Besides serving as part of a system for control, the computer in itself is having a profound effect on technology. Much has been writ-

ten and said about the marvelous things computers can do and almost every day's newspaper carries a story or picture about some new electronic "brain" of awesome proportions and capabilities so I will devote limited discussion to this tremendous development.

But while these large million-dollar-and-up electronic computers are achieving fantastic results in the field of pure science and in certain special tasks in business and industry, it is the smaller or general-purpose computer priced below \$75,000 that holds the most promise of becoming an everyday business and industrial tool. As an example, a leading highway engineering firm recently announced development of a system, using a general-purpose computer, that cuts highway survey and engineering time to one-thirtieth of what otherwise would be required—it calculates where a road should go for matching cut and fill. You can imagine the millions of dollars saved, plus the time of the engineers involved, in the application of such a computer to a major highway program.

In the office you may have a machine that will prepare the whole payroll, we'll say, in an hour. Many an office will have such machines. I might point out here that machine-made unemployment as a result of computer "brains" is a misconception. A survey shows that in 1940 we had in this country some five million people employed in clerical work. Today, the figure is 8 to 10 million. Clerical work amounted to 10% of total employment in 1940, while today's clerical workers make up 15% of the total working force. In fact, the long history of the arithmetic machine, from abacus to adding machine, cash register, calculator, and punched cards, shows that the faster the machine process, the more jobs the machines created for the men who work the machines.

Electronic computers in several forms will have their application to hospital systems of the future. For instance, industry is now working on a plan to accumulate employees' wages or salaries automatically and continuously and then to use them for a continuous means of cost recording and control. Suppose each employee has a metal tag on which is key-punched complete information including name, classification, rate, address, etc., which when inserted in a time clock automatically records the tag and time clock information in a computer memory system wired from all clocks with additional information being piped in as that employee is assigned to various duties and jobs. The computer then calculates, records and even prints complete salaries or wages and costs of thousands of different operations as desired.

Will Aid Small Business

There is some concern that these great technological changes will be unfavorable for the continued growth of small business. History does not so indicate and I am not one that shares this concern. Such changes will not only create new jobs, but thousands of new businesses. The automation industry itself must produce devices both large and small. There will be small businesses in engineering, development, sales, servicing and maintenance of product and the inventive spark that has founded many new concerns in the past will be even more prevalent. A visit to any automation show will demonstrate such trends.

Nor will the use of automation be the exclusive domain of the big corporations. It will be adopted, whether by large or small business, if—when all the eventual costs are totaled up—it is actually cheaper and/or better than continuing present methods.

At this stage, I think, we have broadly explored some of the areas of automation to begin to bring it into focus from the stand-

point of the practical business man and in terms of the significance it may have on our economy.

Significance To The Economy

I think it is clear that the ultimate significance of automation is that it is a way of increasing productivity—and hence our standard of living—to a degree which is almost impossible for us to imagine in the light of previous experience. Most assuredly, it is a new guarantee of the continual process of change that has marked all human progress. But the basic changes it will make will not come overnight, though the pace of change may certainly increase. The switch to automation will be a gradual process governed fundamentally by the marketplace or, in other words, by economic considerations.

It should be noted, for instance, that automation in the office does not mean that we shall do the same things with machines that are now done with human effort. The function of the office is to collect, store, interpret and report on information. With superior methods for doing these things, business will collect and store more information, analyze it better and act on it faster.

The primary impact of automation on society will be to create new opportunities—opportunities for new skills, for raising standards of living, for increasing military strength, for earning a living in a more rewarding and interesting way, and opportunities for setting up profitable business in fields that may be almost unknown at present.

To say that automation will cause labor displacement is by no means equivalent to saying that it will bring about unemployment. There is the classic example, here, of the blacksmiths who were put out of business by the automobile. We would be here for a month if we were to try to enumerate the new opportunities for earning a living that were created by the automobile age. There is also the case of the telephone industry, which began about 1920 to use automation in the form of dial telephone equipment. Since 1920 the operating telephone companies have more than doubled their employment. The use of continuous-flow methods in the oil industry also began about 1920 and this industry's employment also has about doubled.

A real danger is that fears about the so-called bad side effects of automation will slow it down by imposing an additional cost upon production. If such burdens offset the savings from increased efficiency, the incentive for technological improvement may be impaired or destroyed.

The only connection between automation and unemployment is the problem of labor displacement; the need for people to adapt themselves to new jobs and new opportunities. People will shift from lines of work in which their services are no longer needed to others, often better jobs. There is no virtue in keeping people at work making more automobiles than are actually needed. Farm mechanization would have been largely pointless if we had insisted on keeping three-quarters of our population on the farms.

Automation will be adopted by large or small business if, when all the eventual costs are totaled up, it is actually cheaper and/or better than continuing present methods.

Will Not Replace Man

One final word on this myth that automation somehow puts machines into competition with men: No machine, however automated, can be trained to meet all unforeseen developments, or endowed with an understanding of general objectives. Machines can be built with a memory for re-

cording past events, but they cannot be built with imagination for spotting new possibilities. Photoelectric cells can "see" certain marks, but they do not possess "vision" in the higher sense. These functions—judgment, appraisal and imagination—still belong exclusively to human beings.

In our concentration on this topic of automation, which emphasizes inanimate things—new and fascinating combinations of metal and wires and vacuum tubes and transistors—let's not forget that all progress is of human origin. The driving force of ambition, the unpredictable course of man's inventiveness, and his knack of using his freedom of enterprise to build organizations that produce useful things and create income-producing jobs—these are the indispensable ingredients of progress.

What people are inspired to do, or prevented from doing, will control what really happens to automation.

Business Man's Bookshelf

Atom in the Electric Business—Electric Companies Public Information Program, 2 West 45th Street, New York 36, N. Y. (paper).

Better Handwriting—Paul V. West—Barnes & Noble, 105 Fifth Avenue, New York 3, N. Y.—(paper), \$1.00.

Common Stock Financing—Harold W. Stevenson—Bureau of Business Research, School of Business Administration, University of Michigan, Ann Arbor, Mich. (paper), \$4.00.

Comparative Job Performance By Age—Bulletin 1223—U. S. Department of Labor, Bureau of Labor Statistics, 341 Ninth Ave., New York 1, N. Y., 45c.

Connecticut's Manufacturing Economy—Connecticut Development Commission, State Office Building, Hartford, Conn. (paper).

Current Economic Comment—With articles on "Wages, Prices, and Employment"; "Voluntary Credit Restraint Program"; "Benchmarks of Bank Mergers"; "Reconsideration of the Tableau Economique"; "Federal Agencies and the Creation of Gross National Product"; etc.—Bureau of Economic and Business Research, 205 David Kinley Hall, Urbana, Illinois (paper), published quarterly, (available on request).

Directory of National and International Labor Unions in the United States, 1957—Bulletin 1222—U. S. Department of Labor, Bureau of Labor Statistics, 341 Ninth Avenue, New York 1, N. Y., 40c.

Dominican Republic: Annual Report for the year 1956—Secretary of State for Industry, Commerce & Finance, Ciudad Trujillo, Dominican Republic (paper).

East-West Trade Developments 1956-1957—International Cooperation Administration—Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. (paper).

Employment for Women as Secretaries, Typists, Stenographers, other clericals—U. S. Department of Labor, 341 Ninth Ave., New York 1, N. Y.—20 cents.

Employment of Older Women: An Annotated Bibliography—U. S. Department of Labor, 341 Ninth

Ave., New York 1, N. Y. — 30 cents.

Fifteen Major Current Tax Problems Analyzed—Complete text of papers presented at the Fourth Annual Institute on Taxation conducted by the Texas Society of Certified Public Accountants—Journal of Taxation, Inc., 147 East 50th Street, New York 22, N. Y. (cloth), \$4.95.

Frey Report—Analysis and evaluation of advertiser-agency-media working relationships—Association of National Advertisers, Inc., 155 East 44th St., New York 17, N. Y., \$50.00.

Hearings Before the Joint Economic Committee on the Congress of the United States: January, 1958 Economic Report of the President—Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. (paper), \$1.50.

Radio-TV: Perils to Prosperity—A. B. Meany, Sr. — Pageant Press, 130 West 42nd Street, New York 36, N. Y., \$3.00.

Sales Horizons—Kenneth B. Haas and Enos C. Perry—Prentice-Hall, Inc., 70 Fifth Avenue, New York 11, N. Y. (cloth), \$4.45.

Sampling Techniques in Accounting—Robert M. Trueblood and Richard M. Cyert—Prentice-Hall Inc., 70 Fifth Avenue, New York 11, N. Y. (cloth), \$7.50.

Savings and Mortgage Statistics—Annual Savings and Mortgage Conference—American Bankers Association, 12 East 36th Street, New York 16, N. Y. (paper), 50c.

Security Dealers of North America—1958 Edition—Completely revised directory of stock and bond houses in United States (including Hawaii) and Canada—geographically arranged, includes description of character of business, exchange and other memberships, names of executives, telephone and wire services, etc.—Herbert D. Seibert & Co., Inc., 25 Park Place, New York 7, N. Y. (fabrikoid), \$14.00.

Soviet Progress versus American Enterprise—Papers presented at the 15th anniversary meeting of the Committee for Economic Development—Committee for Economic Development, 711 Fifth Avenue, New York 22, N. Y., \$2.00.

Steel and Inflation: Fact vs. Fiction—United States Steel Corporation, 71 Broadway, New York 6, N. Y. (paper), copies on request.

Steps to Success—Booklet to private utility companies with plans for launching and conducting air conditioning programs—American Gas Association, 420 Lexington Avenue, New York 17, N. Y., \$2.00.

Suggestions for the Advancement of Magazine and Farm Publication Advertising—American Association of Advertising Agencies, 420 Lexington Avenue, New York 17, N. Y. (paper).

Taft-Hartley Act: A Supervisor's Guide—Waldo E. Fisher—Industrial Relations Section, California Institute of Technology, Pasadena, Calif. (paper), \$1.00.

Ten Years—The Czechoslovak Question in the United Nations—Czechoslovak National Council of America, 4125 West 26th Street, Chicago, Ill. (paper), \$2.

United States Savings Bonds—U. S. Treasury Department regulations—U. S. Government Printing Office, Washington, D. C. (paper).

What Do You Want from Your Job?—Booklet explaining methods-time measurement technique—Debrodt Publications, 512 West Hoover Street, Ann Arbor, Mich. (paper), 50c (quantity prices on request).

Wholesale Prices and Price Indexes 1954-56—U. S. Department of Labor, Bureau of Labor Statistics, 341 Ninth Avenue, New York 1, N. Y., \$2.00.

Our Reporter on Governments

By JOHN T. CHIPPENDALE, JR.

The decrease in the discount rate by the Federal Reserve Banks is another sign that easier money market conditions will be continued for the foreseeable future. This is taken by most money market specialists to mean that credit will be more ample and one of the quickest ways to bring this about is through another reduction in reserve requirements of the member banks of the system. It is evident that the Treasury will have to be in the market shortly for new money and it is believed that this will be raised largely through the sale of near term obligations to the commercial banks. This financing should hasten the cut in reserve requirements.

The reduction in the discount rate to 2¼% helped to relieve most of the congestion in the long-term Government, corporate and municipal markets. Short-term, new money raising operations by the Treasury will have favorable effects on the long-term sector of the bond market.

Discount Rate Lowest Since November 1955

The third reduction in the discount rate since the recession started last August has brought the Central Bank rate down from 3½% to 2¼%. The current rate is the lowest since November, 1955. It was believed in many quarters of the money market that the discount rate would have to be reduced eventually because it was very much out of line with short-term rates. The action of the Treasury in taking care of a substantial part of its recent refunding operation through the use of intermediate and long term bonds, and the use of a medium term bond for new money raising purposes, tended to limit the supply of short-term Government obligations. Also, the decision of the Treasury to retire \$100 million of Treasury bills this week did not help the supply position of the short-term money market.

Thus, with short-term rates declining as a result of the increased supply of funds seeking an outlet in these securities, because of the modest reduction in reserve requirements of the member banks and the limiting of the supply of near-term issues by the debt management policy of the Treasury, it was not an unusual development to have the Federal Reserve Banks make a reduction in the rate which is charged member institutions when they borrow from the Central Banks.

Mainly Psychological . . . But

The successive decreases in the discount rate since last November has brought with it easier money market conditions, although the reductions in the discount rate, by itself, has not increased the amount of funds that the member banks have to work with. The lower discount rates have been taken by the money market to be principally psychological developments and in the main that is true. However, it should be kept in mind that the successive lowerings of the Central Bank rate has been a definite reaffirmation on the part of the monetary authorities that the policy of easier money is still very much in vogue and will continue to be so in the future.

Further Cut in Reserves Seems Assured

The recent reduction in reserve requirements of the member banks has for a time, at least put these institutions on the plus side as far as reserves are concerned. This places them in a position to take care of the March 15 income tax borrowing which are usual at that time of the year. There can also be additions to the reserves of the member institutions through open market operations of the Federal Reserve Banks, since the purchases of Treasury bills by the Central Banks will put more reserves at the disposal of the deposit institutions. This, nonetheless, is a slower process than a reduction in reserve requirements would be. However, since the Treasury will have to be in the market for new money in the very near future, it is expected that there will be another reduction in reserve requirements of the member banks of the Federal Reserve System shortly.

Treasury Will Rely on Commercial Banks

The reason for the belief that reserve requirements of the system's banks will be cut again is based on the assumption that the bulk of the \$3 billion or \$4 billion of new money which will be raised by the Treasury will have to be in issues tailored to meet the needs of the deposit banks. This means short-term obligations which will build up the liquid position of these institutions. Also, the money supply will be added to through the sale by the Treasury of new money raising securities to the member banks of the system. This would be a favorable development for the economy. In addition, the Treasury by offering near-term obligations for new money will be tapping a market which is prepared for just such issues. This will likewise take the Treasury out of the long-term market as a competitor with private borrowers for the available supply of these funds.

Coast Exchange Members

LOS ANGELES, Calif.—Three new members have been elected to the Pacific Coast Stock Exchange, one resulted from an intra-firm membership transfer and two through purchases of memberships in the Los Angeles Division, it was announced by Frank E. Naley, Exchange Board Chairman.

The two purchases admitted two new member firms to the Exchange, Morton Seidel & Co. of Los Angeles, and Harold S. Stewart & Co. of El Paso, Texas.

The new Exchange members are Arnold Seidel, partner of Morton Seidel & Co. and Harold S.

Stewart, President of Harold S. Stewart & Co. Milton Toboco, President of Daniel D. Weston & Co. became a member through the transfer of the membership of Daniel D. Weston to Milton Toboco.

Ralph S. Moore

Ralph S. Moore, Assistant Secretary of A. G. Becker & Co. Incorporated, passed away on Mar. 3.

White, Weld Branch

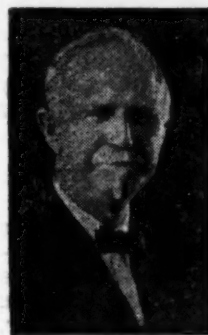
HARTFORD, Conn.—White, Weld & Co. has opened a branch office at 750 Main Street under the direction of C. Spencer Smith.

Correcting Educational Faults

By ROGER W. BABSON

Mr. Babson sets forth his views as to what is wrong with our educational system and with each criticism offers his solution. Holds parents responsible for: propelling children into social life instead of insisting on proper study habits and discipline, not setting a proper example, and allowing ethics and morals to be neglected in school curriculum. Favors better teacher salaries but not Federal scholarship aid.

Since the launching of the Russian Sputniks, there has been much hue and cry about our educational deficiencies. Many people, especially frightened Administration officials and Congressmen, now want us to concentrate on scientific subjects in our elementary and high schools, as well as in our colleges. In their eagerness to restore our lost prestige, they forget that economics and merchandising are as important as physics and chemistry.



Roger W. Babson

What About Teachers' Salaries?

Many voices are being raised in Washington in favor of Federal aid to schools. It is pointed out that this aid is needed because local communities cannot pay today's high costs of maintaining proper schools. Those who want Uncle Sam to dole out funds for school purposes cite the need for higher salaries for teachers. I think Washington should proceed cautiously in the matter of Federal aid to schools. Such a program, though started on a nominal level, would grow to such proportions as to hurt rather than help the over-all economy.

We should remember that our ability to pay is limited. If every request for government aid is granted we shall hurl ourselves into an economic disaster that could easily mean the end of our way of life. As for teachers' salaries: I am in favor of hiking salary levels to get better teachers. But I do not think it fair to the tax-paying public to give teachers large increases in pay simply for acting as baby-sitters for our children and grandchildren during school hours.

Scholarships Alone Are Not the Answer

Uncle Sam is being asked to grant scholarships to pupils as an incentive for them to do better work generally and to undertake studies in scientific fields. It is a sound idea to give scholarships to exceptional students; but why expect Uncle Sam to finance them? Local business interests and local governments should partly carry the ball here. However, scholarships alone are not the answer to what ails us educationally.

What we need—and what I have been advocating for a long time—is a complete overhaul of our educational system. For the past couple of generations, we have been growing "soft" in our attitude toward teachers and pupils. "Progressive education" has been anything but progressive. With its emphasis on self-expression, it has destroyed discipline in many of our schools. Today, respect for teachers is the exception rather than the rule, as is respect for the rights of others.

Our Children Are Our True Wealth

Teachers and educational theorists should not be blamed for all the troubles that beset our schools today. We parents and grandparents are also to blame. In our eagerness to avoid controversy

regarding religion in public schools, we have forced school administrators to avoid teaching ethics and morals—or at least we have sat idly by.

Our children and grandchildren are our true wealth. We need their brainpower and moral fiber to meet the serious problems which we will have in another decade or two. Yet most of us do not spend as much time with our young in a month as we spend working out the details of a single business agreement. And when we are with these young people, do we know how to talk to them, how to capture—and hold—their interest?

Restore Discipline and Study

The first thing we must do for the next generation is to restore their respect for discipline and study. To do this, we must take an interest in our young people. We must teach them ourselves by example, as well as by precept.

As for study: The blame for lack of proper study habits among children today should be laid squarely upon the shoulders of parents. Lax fathers and mothers push their children into adult pursuits too early in life. The result is that boys and girls have such a demanding social life that they may not be able to give sufficient time to study. As they grow older, these social "obligations" increase and study gets still less attention. Failure to correct this trend can one day make us easier prey for some sturdier civilization.

Saxon Paper Common Stock at \$4 a Share

Milton D. Blauner & Co. Inc. and Associates, yesterday (March 12) offered 112,500 shares of Saxon Paper Corp. common stock at \$4 per share.

Net proceeds from the sale of these shares will be added to working capital.

Saxon Paper Co. is engaged in the converting and wholesale distribution of fine paper and paper products. The company sells its products today under the trade name "Sphinx."

Upon completion of this financing, outstanding capitalization of the company will consist of 400,000 shares of common stock.

Associated in the underwriting are: Aetna Securities Corp.; Halliwell, Sulzberger, Jenks, Kirkland & Co.; Roman & Johnson; and L. D. Sherman & Co.

Joins Bache & Co.

(Special to THE FINANCIAL CHRONICLE)

MIAMI BEACH, Fla.—Sidney Hirsch is now affiliated with Bache & Co., 1 Lincoln Road Building. He was formerly with Anderson Cook Company, Inc.

Henry Montor Adds

(Special to THE FINANCIAL CHRONICLE)

CHICAGO, Ill.—Jack H. Musliner has been added to the staff of Henry Montor Associates, Inc., 134 South La Salle Street. He was formerly with H. Hentz & Co. and Arthur M. Krensky & Co., Inc.

Bache Adds to Staff

(Special to THE FINANCIAL CHRONICLE)

MIAMI, Fla.—Vera G. Franck has been added to the staff of Bache & Co., 96 Northeast Second Avenue.

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Finding an Attractive Place For Small Commercial Farmer

From the point of view of society as a whole the inability of agriculture to reduce output in a depression is an almost unmixed blessing. If it were not for this fortunate characteristic of agriculture we would starve in a depression as well as suffer from unemployment and from diminished outputs of industrial goods. As it is, even in the severe depression of 1929-32, average food consumption in the United States did not appreciably decline, though there is no doubt that the distribution of food consumption worsened—that is, some people ate very little and some too well. Food consumption did not decline because food production did not decline. If the farmers had been able to protect their prices by restricting their outputs, as manufacturers are so frequently able to do, we would not merely have suffered loss of real income and unemployment, we might have starved as well.

Does Society Exploit the Farmer?

The question must be raised however whether this support of the rest of the economy in depression by the farmer does not involve him in a real sacrifice, so that in a sense he is exploited by the rest of society. It is true that a depression invariably involves the worsening of the farmer's "terms of trade" or "parity ratio," and this is undoubtedly one reason why parity has become an important symbol for the farm groups. The reason for this is found basically in the different responses of agriculture and industry in regard to output. The farmer's terms of trade are what he gets (in real goods) for one unit of what he sells. In a depression he has just about as much to sell as before, as his production stays up. What industry has to offer to him, however, has sharply diminished in quantity. He can buy less industrial goods with his wheat, simply because there are fewer industrial goods being produced. It is the bathtubs and paint and clothing and automobiles which are not being produced because of unemployment that the farmer cannot buy, because they are not there to buy! This is the "real" phenomenon behind the relative price changes—the greater fall in agricultural prices than in industrial prices.

The farmer of course is not the only person who is affected adversely by a depression, and it may be doubted whether he is affected more adversely than the industrial worker, the stockholder, or the small business man. Indeed, the fact that there is a slight drift back to the farms in a severe depression indicates that in spite of the worsened terms of trade of agriculture, the fact that it offers employment opportunities more than outweighs the disadvantages, and that as compared with the combination of high real wages for the employed and a large chance of unemployment in industrial occupations, and full employment at low real wages in agriculture there seems to be some pull towards the latter. We really know very little about the incidence of depression on the distribution of personal incomes by occupations and by regions and by large industrial groups. The only groups which clearly gain from depression are the receivers of interest, pensions and annuities, and those who are in "protected" employment positions, with tenure and so on. The proportion of national income going to interest rose sharply from 7% in

1929 to 13% in 1932; the proportion going to wages and salaries likewise rose from 58% to 73%. We may be pretty sure that this represents a shift from youth to age—a depression almost certainly shifts income markedly from the young to the old. Just how it shifts income from urban to rural populations we do not really know. It would not be surprising, however, if we discovered that there was a shift away from rural areas: more interest receivers and pensionaires proportionally may live in urban areas, and certainly more people with "protected" jobs live in urban areas.

Prescribes Increased Industrial Output

The farmer may not be the most disadvantaged group in a depression, but he is certainly on the disadvantaged side of the line. The answer to this problem, however, is not to improve the relative position of the farmer by a still further decline in the national product! The answer is clearly to prevent depressions. The worsening of the terms of trade of agriculture in a depression is not a result of something that is wrong with agriculture, but is a result of something that is wrong with industry! We could, of course, improve the terms of trade of agriculture by diminishing its output, as the worsening of the terms of trade are simply a reflection of the fact that agriculture output declines less than the output of industry. But this would be sheer madness: the sensible thing to do is obviously to improve agriculture terms of trade by increasing industrial output, not by diminishing agricultural output—assuming here that we are not talking of a shift in output between agriculture and industry, but simply of unemployed capacity.

One further point in connection with the depression experience is relevant to this discussion. There is not much relation between the distribution of monopoly power in the economy and the ability to protect profits. A depression is marked by a great shift away from profits into almost all other forms of income, for reasons which we cannot go into here. The monopolist can protect his price in a depression better than a firm in highly competitive markets, but does not mean that he cannot protect his profits. The decline in output which the monopolist suffers is just as destructive to his profits as the decline in price which the competitive firm suffers. Indeed that broad division of national income which suffers the greatest decline in a depression is corporation profits!

The fact that so large a proportion of total farm income is labor income probably protects farm income very substantially in a depression. Thus in the face of sharp deflationary movements it is by no means clear that monopoly gives any advantage. Indeed, there is evidence to show that firms which are in a monopoly position are too reluctant to cut prices in a depression, even from the point of view of their own profits, and that the inertia and lack of sensitivity to price policy which seems inevitably to be the outcome of monopoly is a detriment to the monopolist himself in times of sharp monetary changes whether of deflation or inflation. The monopolist even from the point of view of his own interest does not lower his prices fast enough in a deflation, nor does he raise them fast enough in an inflation. In these short-run prob-

lems, then, the view that a monopolistic market situation gives a great advantage to its possessor may be severely questioned.

Long-Run Effects

We now turn to the much more difficult question of the long-run effects of the distribution of monopoly power, especially as between industry and agriculture. Here we must take a look for a moment at the broad dynamics of the historical relation between agriculture and the rest of the economy. In a society in which agricultural techniques are improving there is a constant decline in the proportion of the national economy which is occupied by agriculture, whether this is measured by labor force, by value of output, or by any other measure. This is basically because of the nature of agricultural commodities as "necessities"—goods of low income elasticity. As income rises a smaller and smaller proportion of income is spent on food and fibers. Improvements in agriculture therefore result ultimately in an increase in the proportion of the total product which is contributed by industry, rather than an expansion of agricultural production. If the total population is rising rapidly enough of course there may not be an absolute decline in the agricultural population, but there will always be a relative decline.

In the United States for instance the agricultural population has declined from something over 90% in colonial times to about 15% today. It is the resources released from agriculture, moreover, which have enabled the United States and similar countries to build up their industrial systems. If it had not been for the technical improvement in agriculture the effectiveness of industrial improvements would have been much less. In a very real sense therefore the American standard of life and economic power rests on the base of agricultural improvement, in the sense of constantly increasing output per agricultural worker.

Paradox of Productivity

Paradoxically enough, however, it has been precisely this high rate of improvement in the productivity of agriculture which has led to the relative disadvantage of agriculture in the distribution of income. One may put the matter crudely by saying that the only way to get people out of a declining industry is to squeeze them out—that is, to make the declining industry less attractive than the expanding ones. This is accomplished very neatly through the price system; the declining industry has a chronic tendency towards over-production, as it never declines quite fast enough; this over-production leads to relatively low prices for its products and therefore to relatively low incomes for its workers and its capitalists. The differential in incomes between the declining and into the expanding industries depends on the mobility of resources between them—that is on the ease with which labor and capital can move out of the declining and into the expanding industry. If resources are mobile a very slight disadvantage of incomes in the declining industry is enough to induce people to make the requisite transfers to the expanding industries; if resources are immobile it will take a large disadvantage in the decline industry to induce enough people to transfer out of it.

Mobility has two aspects: one is the ease in getting out and the other the ease of getting in. Resources in agriculture may be immobile either because there are customs, habits or laws which tie people to the land and prevent them from leaving agriculture, or because there are obstacles to people entering industry. The

question at issue here, and it is a difficult one to which no very positive answer can be given in the present state of knowledge, is the importance of the distribution of monopolistic and competitive markets, and the related distribution of sizes of firms, among the various factors which affect the mobility of resources between agriculture and industry.

Farmer Is Not Isolated

About the best we can do is to outline the various elements in the situation which contribute towards the mobility of resources out of agriculture, in order to try to make some rough assessment of the possible importance of the element of monopoly power. Historically one of the principal obstacles to exit from agriculture has been the geographical and cultural isolation of the rural population. In all previous civilizations there has been a sharp cultural division between urban and rural people; the very word "Civilization" means literally something that happens only in cities, and the overtones of words like civil, urban, rustic, and so on testify to the past differentiation between urban and rural life.

Insofar as the cities have maintained themselves by the exploitation of the rural population they have usually tried to justify themselves by the denigration of rural culture as crude, primitive, and uncivilized. It is to the very great credit of our own society that to a large extent, at least in the field of commercial agriculture, we have overcome this geographical and cultural isolation of rural people. For the first time in history we have built a civilization in which the farmer also is part of the "civis." Part of this is due to the revolution in transportation and communications which has removed the geographical and communicational isolation of the farmer—the automobile, the radio and television, and so on. Part of it is due to the high technology of commercial agriculture itself, which demands a level of education and skill of the farmer at least equal, if not superior to his urban equivalent.

Whatever the reason, it is clear that in the area of commercial agriculture at any rate the farmer is no longer isolated from the rest of society, and that this factor no longer can be invoked as an explanation of the failure of resources to leave commercial agriculture in sufficient amount. In the area of subsistence agriculture, which represents the main problem of agricultural poverty, pockets of cultural and geographical isolation still are found, though even here better roads, radios, busses and so on are breaking down the old isolation.

A dynamic factor which used to be of considerable importance in explaining the continuing surplus of the agricultural population is the differential birth rate in rural areas. A marked feature of earlier periods was the much greater reproduction rate in the country than in the towns. This meant that even if agriculture maintained a constant proportion of the labor force it would still be necessary for people to move from agriculture into industry in order to feed the population increase of the country into the population deficiencies of the towns. Even if there were no forces making for relative decline in the proportion of people engaged in agriculture, it would still be necessary for agriculture incomes to be somewhat less than urban incomes in order to move the excess population of rural areas into industrial occupations. This factor again is of considerable importance in the area of subsistence agriculture; it is of much less importance in the area of commercial agriculture, where birthrates are no longer greatly different from urban

birthrates—perhaps because of the profound urbanization of rural life.

Land Ownership

Another factor which may be of some importance in preventing the exodus from agriculture is found in the institutions of land tenure and ownership. If farmers are bound to the land by feudal ties, or if land ownership and tenure are in forms which freeze existing arrangements, and make consolidation or extension of holdings difficult, or if credit arrangements are so primitive that it is difficult for able and active farmers to extend their operations beyond what chance or inheritance has given them in the way of land and equipment, or if inheritance laws favor the splitting up of estates among children so that children are encouraged to stay on the land and farm tiny, scattered and inadequate plots, then the difficulties of migration from agriculture are accentuated. In many parts of the world these factors are of great importance; it is hard to believe that they are of much importance in the commercial agriculture of the United States, where credit facilities are generally good, where farms have been growing in size rather than being fractionated, and where it does not seem to be too difficult for an able farmer to acquire more land and equipment.

One is left with the conclusion that the cultural and institutional factors are not of great importance in holding people in commercial agriculture in this country; the exit gate is pretty wide and easy to open. The one criticism of existing institutions which might be made on this score is of the rural school, which might perhaps do more to equip its pupils for the urban lives which a considerable proportion of them will face. Where the difference between urban and rural culture is so small, however, as it is in this country this factor cannot be of very great importance.

Industry Entrance Barriers

Is then the difficulty with the entrance into industrial occupations rather than with exit from agriculture, and if so, is this at least partly to be explained by the prevalence of monopoly or large scale organization in industry? This is a question to which I frankly do not know the answer, and which deserves very serious study. I can think of no more valuable research project in this field than a good study of farmers who have left agriculture in the past generation. Unfortunately it is nobody's business to study these people: having left agriculture, they have passed out of the heavily subsidized intellectual area, and they do not form an easily recognizable class of people or a pressure group.

Nevertheless the key to understanding what is the matter with agriculture may very well lie in the study of the experiences of those who have left it. We do not really know where they go, what they go into, what fields are open to them, and most important, what fields are closed to them. It might turn out that one difficulty is that of fitting a small capital into the current industrial structure. It may not be too difficult for farm laborers without capital to enter the industrial working force; it may be quite difficult for a farm operator, who is a laborer-plus-capital, to find an equivalent niche in industrial society. This may or may not have anything to do with the existence of large scale industry. We do not expect, of course, a farmer to start a steel mill or an automobile plant. There are, however, many areas of industry where small capitalists are important—in retailing, in construction, in personal services and in the professions. If however (as one suspects) in the overall distribution of enterprises by size

there is a disproportionate number of small enterprises in agriculture, this may present a real obstacle to the transfer of small worker-capitalists from agriculture to industrial employment.

One further question needs to be asked, though here also a definite answer is hard to give. It is sometimes argued that the farmer is peculiarly disadvantaged because he sells to large concerns with monopolistic control over their markets, whereas he buys in the general competitive market, or even worse, buys from large, monopolistic concerns also. According to this view he is subject to monopolistic exploitation from his suppliers, and to what economists call "monopsonistic" exploitation from the purchasers of his products, squeezed between big buyers on the one hand and big sellers on the other. We certainly cannot deny the possibility of such exploitation. For it to be effective, however, there would have to be an almost total absence of competition among the firms supplying or buying from farmers, and it is probable that there would also have to be price discrimination—the purchasers, for instance, paying a smaller price to farmers with lower costs or with lower mobility. Otherwise, given sufficient mobility, any attempt to exploit farmers would simply result in their leaving the occupation in numbers sufficient to force the purchasers to raise their prices in order to get an adequate supply. It is to mobility, rather than to simple market monopoly, that we must look for an explanation of the farmer's difficulties.

Price Discrimination

In the past, and in particular places, this element of monopolistic or monopsonistic exploitation may have been important. Today, however, there are two important safeguards against it. One is the Robinson-Patman amendment to the Clayton Act, which seems to have been at least modestly effective in preventing price discrimination. The other, and perhaps the most important, is the rise of the marketing cooperative. If there are any unusual profits in the wholesaling, processing or even retailing of farm produce it will not be difficult for farmers to cash in on these profits for themselves through the device of the marketing cooperative. If there are unusual profits in the business of selling to farmers, farmers should be able to cash in on these through the device of the purchasing cooperative.

The rise of the farm cooperative in the past 50 years or more is evidence that a problem of exploitation by "middlemen" may have existed. The relative stability of the cooperative sector of the market now, however, is evidence that the problem is no longer serious, and that there are no longer any large areas of unusual profit for the cooperatives to undermine. This does not preclude the possibility of local situations where exploitation of this kind continues, especially where it may be combined with racial or other forms of group discrimination. As a large general problem, however, I think we may claim that whatever its importance in the past, it is no longer a major concern.

Unearned Increment

A final word might be added on the peculiar position of the landowner in agriculture, for although this is not a problem of size of enterprise, it may well be a problem in monopoly. It is a long established principle in economics that an increase in agricultural income tends to be absorbed eventually by the landowner, either in rise in rents or in the value of property. This is especially likely to be the case where the location of the farm gives it an advantage, whether natural

or artificial, and whether geographic location or "social" location. A striking illustration of this principle is the impact on land values of tobacco marketing quotas. These are attached to the farm rather than to the farmer. Insofar as they enable the tobacco grower to get monopoly gains (which apparently they do) these gains are soon capitalized in the value of the farms to which quotas are attached. Thus the benefits of the scheme to the tobacco growers tend to accrue to those fortunate individuals who owned the farms which received quotas at the beginning of the scheme. Anyone wishing to come into tobacco growing now has to pay what amounts to a tax to the present owners of these farms in the shape of higher land prices.

A plan therefore which was devised to help growers simply amounts to a free gift from society to landowners—a gift which is hard to defend on any rational or moral grounds. There is a somewhat weaker tendency for all subsidies to agriculture to be captured by the landowner. Where—as is frequently and increasingly the case in this country—the landowner and the farm operator are combined in the same person, the problem may not be serious.

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Over-all, Long-range Direction Of American Business

promote policies that prevent our system from reaching its full potentialities.

Business is by no means the sole or chief offender in this respect. These same weaknesses are found in many of the organized groups in our economy, particularly organized labor. Labor groups have become so powerful that they demand and receive increases in wages and benefits without relation to increases in productivity or general business conditions. The consequent wage-price spiral produces a built-in inflation that, unless checked, will bring down our economic house.

While the present recession may slow down the pace of the wage-price spiral, it will not halt it. The flames of inflation are still licking at the foundations of our business structure. Evidence that this problem is the most dangerous threat to our economy is found in the announcement last week that the cost of living has reached an all time high in the face of declining industrial production. In addition, each day in a faltering economy, hundreds of new labor contracts are being written with provisions for automatic step-ups of wages and benefits, irrespective of productivity. The philosophy of more pay for less work can be carried to a point where we will be dividing up something that we haven't got. At that point, instead of presenting a national image of tremendous energy, we will be an object lesson of a decadent welfare state.

Must Fuse Group Interest

Requests like these do not promote the well-being of future generations. In this legacy we are bequeathing great technical skills but you will not find a formula that provides for the fusion of economic group interests into the common objective of promoting society's best interests.

This is the real core of the problem if we are to preserve the institutions in which we believe against the world-wide challenges they now face.

Our form of society is shaped around a free enterprise or capitalistic system. Consequently, the responsibility for moral leadership rests primarily on business. Thousands of business leaders

There still may be substantial inequities involved, however, and as the poorer farmers are the least likely to be the landowners, subsidies to "agriculture" (as opposed to subsidies to the poor) are all the more likely to aggravate the existing inequalities within agriculture.

Charity Racket

Our agricultural policy has not inaptly been described as a "charity racket": in order to help the 25% or so of farmers who really need it, we scatter largesse broadcast over the 75% who do not. Any program designed to "help agriculture" is bound to produce scandalous inequities, because agriculture is not a homogeneous industry, and farmers are not a homogeneous group of people. Programs of redistribution should be designed to deal with poverty, not with agriculture. There is nothing in the mere fact of a man being a farmer which entitles him to special consideration from society. We should be particularly on guard against the argument that because some farmers may be in a disadvantaged position, whether because of their situation in the market network or for any other cause, therefore all farmers should be subsidized.

have a greater share in shaping this society than all the politicians in legislative halls and executive chambers or the generals and admirals in the Pentagon.

There are no easy solutions to these problems. At the most critical period in our history, we might ask ourselves questions like these: Are we business men so complacent or so preoccupied with our immediate problems that we are not willing to devote a substantial share of our efforts and abilities toward the elimination of fundamental weaknesses in our business system? Are we willing to face up to corrupt and unsound practices in business? Have we the courage to fight monopolistic labor tactics rather than take the expedient? Will we be more articulate in demanding legislative reforms so that all groups are equally accountable to society? Or, to sum it up, as dealers in commodities and securities, are we also prepared to accept our responsibilities as dealers in human security?

In a changing world, whether our form of society wins is primarily a question of whether we win against ourselves. If we, as business men, will dedicate ourselves to the solution of some of these major problems, we shall recreate a national image—an image which, for well over a century, captured the imagination of the world. By so doing, we shall leave a legacy of a strong America and a better world in which our children's children shall live.

Laudy and Harden With Spencer Trask & Co.

Edwin A. Harden and William R. Laudy have become associated with Spencer Trask & Co., 25 Broad Street, New York City, members of the New York Stock Exchange. Mr. Laudy was formerly a partner in Starkweather & Co., with which Mr. Harden was also associated as Manager of the Institutional Department.

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Securities Salesman's Corner

By JOHN DUTTON

"On the Line"

Years ago, when I was a boy, there used to be a very well-known expression that some of those horse and buggy people termed "laying it on the line." In plain English the definition of this expression was simply telling the truth and letting the chips fall where they may. Of late years I haven't heard this phrase used very much. In fact, there are a number of similar expressions that seem to have lost their hold on the modern generation, both young and old. But to get to the point of this week's excursion into sales philosophy, I would like to bring something to your attention that I believe is a vital factor in successful securities salesmanship that is too rarely brought out into the open and acknowledged.

Be Honest

If you are honest about it, there are times when you should advise your clients NOT TO BUY STOCKS. There are times when they should not buy bonds. There are times when they should sit on the sidelines with cash. The latter period only happens briefly in every market cycle. Timing is one of the most important factors in managing an investment account. I recognize that there are several good arguments that can be made for the theory that anytime is the right time to buy good values in common stocks, but the weight of evidence is strongly in favor of the investor who can achieve proper timing in conjunction with sound selectivity.

As far as the bond market goes, in these days of managed money, if you have had an education in this business it is no great trick to know when you should buy bonds and when you should begin to watch the gyrations of Federal Reserve and Treasury policy with a jaundiced eye. Both the stock and the bond market reach levels that are too high eventually—this is history.

Don't Be Afraid to Say I Don't Know

I am sometimes amused by certain sources who write market letters, or those who prepare propaganda sheets designed to stimulate securities salesmen into encouraging orders for Mutual Funds, and others in this business who believe that anytime is RIGHT to sell what they are trying to get rid of, since it is sales and sales alone that pay the overhead. Why any securities man who values the goodwill and the loyalty of his better clients will pick up the telephone and plug a highly overpriced offering of some stock just because he can make a point or less commission by participating in a secondary offering is beyond me. I don't mean to infer that all secondaries are overpriced, but I have seen some "beauts" during the past 12 months and all I can say is that the salesmen who put some of them away at the prices existing in June and July of 1957 are going to be remembered by their customers for a long, long time. And this will be the kind of remembering that some of their customers will wish they could forget.

Have a Mind of Your Own

Unless you can have convictions HOW DO YOU EXPECT YOUR CLIENTS TO HAVE THEM and to follow you? If you are going to be led around by every tipster who calls you and gives you a good one; if you are enamored by the supposed research and forecasting ability of any one soothsayer, market service, or analyst;

and if you are going to listen to others and follow them you are never going to be able to develop the capacity of making investment decisions that have validity. Does it not add up that you must make the investment decisions for your customers—that is what you do when you sell them securities.

Well then, study your markets; follow your situations; pick good sound analysts and read what they say but don't swallow it all with your eyes shut; and remember that the only way you can gain poise, market savvy, the ability to time purchases and sales for your customers is to have a mind of your own. Many times in the past I have listened to others and have made moves in my own investment account because I thought they knew more than I did. I afterward discovered that they knew less.

It is not important that you make large commissions every week or month in the year, it is not even important if there is a protracted length of time when your commission earnings are quite small; but it is important that you keep in touch with your customers, service their accounts, and build a climate of confidence around your relationship with them that will encourage their investment welfare. At the end of the year you will have made a good living and it won't matter one whit whether you had a few lean months doing it.

Lenz With Smithers

SAN FRANCISCO, Calif.—Lowell Clifton Lenz has been added to the staff of F. S. Smithers & Co., Russ Building.

Johnson & Johnson Admit

PITTSBURGH, Pa.—Wilbur E. Johnson, Jr. has been admitted to partnership in Johnson & Johnson, Union Trust Building.

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MIAMI BEACH, Fla.—Morton A. Chauser has been added to the staff of Bache & Co., 1 Lincoln Road Building.

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Continued from page 5

Problems Endangering Canadian-American Relations

no trace of subservience in this relationship, but only the equality of brothers and partners, and no ties save those of esteem and affection.

Maybe the fact that Canadian independence was secured by peaceful evolution, rather than through the violence of armed conflict, makes it difficult for some people in other countries to appreciate that one procedure can be as conclusive as the other. But I am convinced that there are few Americans who do not know that we are a completely independent country. Accordingly, I do not think that problems of a political nature have caused the recent more chilly atmosphere between our two countries. As I survey the current Canadian-American scene, I think that it is conflicts of economic interest that are producing the points of friction.

We know only too well that the economic problems which beset our two nations at the present time are difficult and complex but, making full allowance for that, Canadians just do not understand some aspects of United States action and attitude. Therefore let me examine some of these economic friction points from the standpoint of the average Canadian.

Consequences of U. S. Investments

One of the first questions is connected with the role of U. S. investment in Canada. As many of you may know, since the end of World War II there has been a massive capital inflow into Canada from the United States. Depletion of some American natural resources, proximity and confidence in fair treatment and in the future of Canada, have encouraged a steady stream of American capital into development of iron ore, oil and natural gas, lumber, non-ferrous metals and other basic commodities. Some of the inflow took the form of portfolio investments of a speculative nature, but most of it represented direct investment in plants and facilities for the production of basic and raw materials. Among other things this inflow of capital has been responsible for increased Canadian production of such basic materials as nickel, copper, lead and zinc.

Yet Canadians are now faced with a possible tariff hike on exports of lead and zinc to your country. Many Canadians do not understand the logic of this procedure. On the one hand, on defense and other grounds, you help us to develop new resources; on the other hand, you make it difficult to market the products of such development.

There is another aspect of this capital inflow problem which Canadians fail to understand. Canadians generally have welcomed the establishment of American-owned branch plants and subsidiaries. When these plants were originally established in Canada most Canadians felt they would provide an additional opportunity for equity participation in projects operating within their own borders. They also thought that these new firms and plants would provide opportunities for Canadians to advance to top positions of management. In many cases Canadians have been disappointed on both counts. Equity participation has not been made available, and in many cases top management positions have been reserved for Americans. It seems to many thoughtful businessmen in my country that by giving Canadians an active interest in the success of their Canadian sub-

sidaries, that United States companies would add greatly to their own prospects north of the border.

The capital inflow has been accompanied, as one might suspect, by a massive inflow into Canada of goods and equipment. As the capital that came to Canada from the United States was put to work, the demand for American goods and machinery imports rose substantially. For years now, Canada has been buying much more from the United States than it has been selling. Let me quote you a figure or two on this. During the 10-year period 1947 to 1956 we imported about \$6½ billion more in goods from you than we exported to you. This amounts to a merchandise import differential in favor of your country of more than \$450 for every man, woman and child in Canada for that 10-year period. If services such as tourism and transportation are also considered, the differential is still more in your favor.

U. S. A. Protective Tariffs

The thing that puzzles Canadians is how you expect other countries to pay for their imports from you if you do not make it possible for them to do it either directly by exporting goods and services to you, or indirectly by way of third countries. "Trade, not aid" is more than a slogan. I need not point out that the only way in which a country can pay for its imports, in the long run, is by means of exports. If you wish for economic progress in the western world, there is no better way to achieve it than by making it possible for other countries to export to you goods and services in exchange for the goods and services you sell them. But, as I have said, many Canadians are puzzled by your actions. They know that in recent years tariff increases have been made on watches, bicycles and woollen goods coming from abroad. They also know that movement of other products to your country has been restricted. How can one explain to people in Canada that you like to sell to them, but you do not want to buy their goods or, indeed, the goods of other countries, in exchange?

In general, U. S. protective tariffs on manufactured goods are not liked by Canadian businessmen. It is the belief of the average businessman in Canada—and I tend to agree with him—that the American tariff structure encourages the processing of Canadian raw materials in the U. S., and thus tends to inhibit the build-up of secondary industry in Canada. This is done by means of high tariffs on products of ultimate manufacture and low or non-existent tariffs on raw materials. The average Canadian has read a great deal to the effect that U. S. industry is the most efficient in the world. He does not understand why, if such is the case, American manufacturers of finished goods should fear fair competition from Canadian firms across the line.

Energy Resources Development

In much the same vein, a number of questions about energy resources are being asked north of the border. A good part of the capital that has come to Canada in recent years has been used to explore for petroleum, to develop these energy resources; and to provide for transportation of them across Canada and also to American points. Canadians were eager to develop these resources, not only because they would make for more efficient domestic production, but also because they hoped that export of some of these prod-

ucts would correct the existing imbalance in Canadian-U. S. trade. They were also led to believe by American spokesmen that development of such resources would make a contribution to the common defense of our two countries.

It was well known in our country that oil imports have been a subject of some controversy in the United States for a number of years. Therefore, last July when restrictions were applied on the import of foreign oil into this country, many Canadian oil men became quite apprehensive about the situation. Last month when the oil import restrictions were extended to apply to Canadian crude, it was shown to many of your friends north of the border that their apprehensions were not unfounded. Such restrictions cannot be explained on defense grounds or, indeed, so far as I can see, on grounds of economic wisdom, looking to the long-term.

Agricultural Products

Still other problems which are currently disturbing our mutual relations refer to the international trade in agricultural products. As you know, the agricultural industry in Canada is a very important one, and the prosperity of the industry to a considerable degree is determined by the sale of its products in markets outside Canada. Canadian farmers have long since learned to live with the fact that your country does not want our dairy products or other agricultural commodities, and has applied trade barriers to show it, but I do not think most Canadians appreciate your tactics in our main world grain markets.

As most of you know, wheat and a number of other agricultural products have been in surplus supply in the United States in recent years. In the last half of 1954 your authorities instituted an aggressive surplus disposal program of agricultural products in foreign countries. The scale of operations under the program is indicated by the fact that in the two and one-half years from the third quarter of 1954 to the end of the first quarter of 1957, surplus disposal agreement entered into by the United States covered commodities valued at almost \$5 billion. Of this total, approximately one-fifth was given away, somewhat less than one-sixth was bartered by private contractors for imports of commodities for government stockpiles, while the rest was sold for local currencies. Other large amounts of agricultural commodities have been shipped abroad with the aid of export subsidies. It is little wonder that this flood of agricultural products into the markets of the world has met with vigorous criticism from other exporting countries. Canada, Australia and Argentina have protested about the effects of these special programs on their normal wheat sales.

Bearing in mind that Canadian farm produce is already to a large extent shut out of the U. S. market, I think you will appreciate why Canadians have been concerned about what they call your "fire-sale" and "give-away" programs in world markets. Within the last couple of years, by means of special deals as contrasted to normal commercial sales, you have provided shipments of American wheat and other grains to Germany, Japan, India, Israel, Yugoslavia, Spain, Brazil and a score of other Asian, European and Latin-American countries. These special deals have hurt the Canadian export market. Second only to the United Kingdom, Germany and Japan have become our best customers for wheat and barley. All other countries mentioned, and a dozen more on the list, have in the past bought substantial quantities of wheat and coarse grains from Canada.

I wish it were possible for me to feel that the pressure being applied to our external grain markets is about to end, but I see little comfort in the present outlook. So far as I can judge from current news reports, further disposal programs may be expected during the coming year.

Action and Reaction

Now by this time some are no doubt beginning to wonder just what I am trying to do. I would not be surprised at a reaction of resentment, about a person who comes as an invited guest, and then proceeds to criticize and berate the policies of the country in which his host resides. This resentment might well take the form of a rather blunt statement to the effect that if Canadians have grievances, so have Americans, and that Americans are getting a bit fed up with the rather cocky "chip on the shoulder" attitude which is taking form in Canada, and that a close examination of points of friction might reveal much on the American side that would balance accounts. Then it would not surprise me if this expression of resentment touched a note to the effect that the United States has well recognized its responsibilities as a good neighbor, and as a big neighbor, and that if its attitudes of tolerance and moderation in conceding to its neighbors their place in the world are not appreciated, then perhaps the United States could get nasty too, and with much more devastating results.

Now, if I were to hear such a reaction, I would say at once—I could not agree more; that is exactly the kind of heat that is engendered by points of friction; and that is why action is desirable before the friction is permitted to result in a breakdown.

For their part, I think Canadians must accept the fact that if Americans these days seem occasionally to behave in a way to which we are not accustomed—and sometimes in a way which strikes us as being rather less than we should expect of an old friend—this behavior may be in part a reflection of the enormous expansion of America's role in world affairs which has taken place in the last two decades. In accepting a position of world leadership the United States has assumed vastly heavier obligations. In making decisions under pressure the United States may at times tend to overlook, or give inadequate thought to, the impact these decisions may have on Canada.

Canada's Contribution

At the same time, I believe Americans should recognize that although we are a small country relative to the United States, our continued friendship and goodwill hold many benefits. Through a happy combination of circumstances, Canada is in an admirable position to help you in your leadership of the western world. We are close enough to you, and similar enough in temperament, to understand and explain your actions. We are independent and, therefore, our motives are not suspect when we explain you to others. Finally, our stature in the councils of the world is significant enough to make our help of real value.

Let me for a moment continue with my efforts to report on current Canadian-American relations by extracting a page of history from my own experience. I refer to the organizational arrangements which were made when our respective countries were fighting in World War II. I shall not even mention the magnificent collaboration and integration achieved by the armed forces of our respective countries. I confine myself to the pooling of our civilian and economic effort in the interests of all-out war.

As most well recall, our countries were faced almost overnight with a need to pool all our human, physical and material resources to preserve a solid economic base on the home front. It was my privilege to be entrusted with the organization, co-ordination and management of the Canadian Wartime Prices & Trade Board, which included in its jurisdiction price control to combat the forces of wartime inflation, rationing at the consumer level to meet extreme wartime scarcities, and direction and allocation of all civilian supplies so as to meet the insatiable demands of war. Faced with this sudden and unprecedented situation, we tackled the job of turning to the businessmen of our country. We separated our various industrial, commercial and trade interests into appropriate groups, and we invited the business leaders of these respective interests to sit down with us to work out systems of control. We further requested and obtained the services of the best men that could be recommended by the respective groups to become the official administrators of the Board, and to undertake the responsibility not only for methods of control but for their enforcement. In that way, the necessary orders, guidance and procedures were constructed by men who knew the language of the trade, and whose experience gave the confidence that would have been lacking from amateurs, no matter how well intentioned. It was not the lawyers, the economists, or the public relations experts who did this job—all of these had their part to play, of course, and I do not minimize their efforts in any way—but basically it was the businessmen of the country who provided the management of the governmental machinery that suddenly had to be called into play.

Pooled War Effort

This organization meshed very easily with the machinery set up in the United States along similar lines. We rapidly found that to all intents and purposes the resources of our respective countries were pooled for a joint effort. At that time, too, some major problems arose between economic groups in our two countries. These affected not only the allocation of civilian supplies involving the rationing of such things as sugar, tea, coffee, butter and meat, but as well it involved control over other materials in which wartime priorities took precedence. Indeed, as time went on, many things which we all took for granted as being part of our day-to-day requirements for normal living were diverted, either completely or to a major extent, to the over-riding and essential requirements of an all-out war effort. The approach, you will recall, was called "total war."

What we found was that through interlocking committees of businessmen who understood what they were doing, in the sense that they spoke the same language and had the same background, we were able to reconcile our common problems. To a great extent we avoided the formalities which are inescapable in the peacetime organization of our respective countries; impinging, as they do, on trade and economic interests of all kinds.

Prudent Precautions

Now I would not suggest that a similar pattern is necessary or advisable, or even workable, with respect to our relations today, but I do suggest that there is a lesson to be learned from this experience. The lesson must surely be that the businessmen of our two countries have a very necessary duty to perform in keeping themselves fully aware of anything that tends to produce the sort of misunderstandings and frictions to which I have called attention. If,

we, each one of us, in the course of our day-to-day business with each other, pay particular attention to the emergence of such friction points, then we ought to be able to talk them over in our respective spheres of activity. It would surely not be too much to expect that with a clear appreciation on both sides of the border of how our individual actions impinge on the other, prudent precautions could be advised in time to prevent serious disagreements arising. This is not a job for government. It is, I suggest, a job for the businessman. The need for action, at the diplomatic or political level, tends to arise when something has gone sour, and emergency action is needed of one type or another. By that time it is often too late to see an amicable settlement, and we are threatened with the unfortunate effects of friction having been allowed to go unchecked to the point of breakdown.

We live in a world which has become so complex that we simply cannot expect to leave everything to a group of men called the government. In the sort of thing I have been talking about, discussion and understanding are vital and, as I have said, my further suggestion is that day-to-day communication between businessmen would do a great deal. Railroaders know, for example, that it is not always possible to prevent the grain of sand getting into the journal box, but at least we know that with careful inspection and intelligent lubrication, we can reduce very materially the number of hot boxes that go so far as to cause wrecks. Along this line of thinking I am glad to observe the formation of such groups as the Canadian-American Committee of the National Planning Association which has been organized for the purpose of disseminating objective information on the problem areas of United States-Canadian relations. Factual studies are under way in a number of areas, and as these are completed, and their findings made known to businessmen, labor leaders and educators on both sides of the border, I am sure that we will have taken a significant step in the direction of reducing present and prospective friction between our two countries.

Knowledge and Understanding

Let me conclude by recalling a delightful legend of early American history. Most of you will remember the story of John Chapman who came to be known as "Johnny Appleseed." To many people, Johnny Appleseed seemed a simple soul with only two passions in life: (1) he liked apples; and (2) he liked to walk. It is recorded that he wandered from Pennsylvania through the present day States of Ohio, Indiana, Illinois and up into Canada, enjoying his habit of walking and looking over the primitive land. In the course of his walks he munched apples (he always seemed to have an abundant supply), but his sound and forward looking characteristic was that when he finished an apple, he carefully selected a suitable spot, and planted the apple core, and covered it over carefully in the hope that it would germinate. There were no apple trees in any of the areas through which he walked, but in due course of time some of the trees from his apple cores started to sprout, and men who were clearing land for agriculture suddenly realized that here was an opportunity to produce a fruit bearing crop. The consequence is that many of the large orchards which are now commonplace in the various states, as well as in Canada, came directly from the fact that Johnny Appleseed liked to plant his apple cores. In the same way, if the businessman would plant his seed of goodwill,

understanding and constructive thought whenever he meets his business counterpart, then we may well find that the seed will germinate and produce the fruit of knowledge and understanding so vital to the perpetuation of good relations between our countries. Let us then plant our apple seed and even though most of us may not live long enough to see the fruit, nevertheless, our children and our children's children will be able to taste it and find it good.

Continued from page 4

The State of Trade and Industry

factory operations to about 60% of capacity in February, dealer stocks showed a 7% increase from January.

Commenting further, it declared that "an element of control" has been injected into dealer new car stocks. It said that while further increase in the auto stockpile seems inescapable, the rate of buildup is a diminishing one.

Reflecting inventory adjustment, cars and trucks scheduled for assembly in United States plants dipped to 102,442 units, the smallest total of 1958 to date. This compared with 108,959 in the preceding week and 158,996 in the same week a year ago.

Ford Division last week slashed its car assembly in half, idling plants all week at Alanta, Ga.; Dearborn, Mich.; Memphis, Tenn.; St. Paul, Minn.; Mahwah, N. J.; and San Jose, Calif. Chevrolet, additionally, closed three plants for one day, Dodge at Detroit three days, Chrysler at Detroit one day and De Soto the entire week. American Motors Corp., despite a sizzling February sales increase over January, was also down all the past week.

Manufacturers inventories, regarded as a signal of the pace of the business recession, were cut at a faster rate in January than in December, the United States Department of Commerce reported.

The sharper rate of liquidation in January was "very significant" and reflected a continuation of pessimism by manufacturers over the immediate prospects for a sales pickup. Along with inventories, manufacturers' sales and new orders continued to fall off in January, officials stated.

The January cutback in manufacturers' inventories put the total book value at a seasonally adjusted \$52,900,000,000. The department reported that while inventory trimming was widespread among durable goods producers, about one-half the drop of \$500,000,000 in inventories in this sector occurred among auto and aircraft companies.

Manufacturers sales were down by \$400,000,000 in January to a total of \$26,300,000,000 on a seasonally adjusted basis.

Officials, however, held out the hope that the inventory cutback among manufacturers might reverse itself quickly as producers find themselves with a short of supply of goods on hand if any business upturn should occur.

In a continuation of the trend of recent months, nearly all the January inventory decline was in durable goods. On a seasonally adjusted basis, stocks of durable goods industries at the end of January were down by \$500,000,000 from the previous month. These "hard goods" manufacturers also bore the brunt of the drop in sales, with their share of the total going down by \$700,000,000 to a total of \$12,600,000,000 in January on a seasonally adjusted basis. Non-durable goods producers' sales held steady at \$13,600,000,000.

The drop in durable goods sales amounted to 3% from January, with primary metals and aircraft companies reporting larger than average relative reductions.

New orders at the end of January also showed a pessimistic picture for durable goods producers. The seasonally adjusted rate of incoming business for durable goods producers was 7%. In dollars, the decline for all manufacturers in January from the previous month amounted to \$900,000,000, with \$800,000,000 of this, on a seasonally adjusted basis, in the "hard goods" sector. The reductions in new orders for these producers came primarily in the electrical machinery and aircraft industries.

Steel Operations Scheduled at 53.1% of Ingot Capacity This Week

Odds that there will be a strike in the auto industry in June have dropped 6 to 5, "Steel" magazine declared on Monday of the current week. Three weeks ago, odds were 3 to 1 that the United Automobile Workers would walk out.

The improvement in the possibility of auto-labor peace reflects the weakened position of the auto workers due to lower than anticipated auto production and increased industry unemployment, the metalworking weekly added.

The question in the past has been whether management could afford a strike. The situation now is reversed.

With more than 200,000 workers idle in Detroit local union officials are hinting they want Walter Reuther, UAW president, to accept any honorable settlement enabling men still working to stay on the job. The recent refusal of a Pontiac UAW local to strike against speedup demands emphasizes workers attitude. So does the union's refusal to strike against Chrysler over a similar dispute.

Steelmakers are still looking for the first clear indications of a business upturn, states "Steel." So far as March is concerned, improvement does not seem to be in the cards. Steel men believe April will see the start of the upturn.

For one thing, automakers are turning out more cars than they are selling. As a result, they must curtail production. Ford Motor Co. will operate on reduced schedules for several weeks. Chevrolet, one of the strongest producers until now, also plans cutbacks. It already has canceled about half its April steel orders.

As car builders push March orders into April, cold weather hinders construction. There has been no pickup in demand for plates or structurals. Nor have the heating and plumbing industries increased their purchases of butt-weld pipe. The seasonal upturns for these products, as well as for merchant wire, may come a month late.

Of the stocks of major steel products held in consuming plants, sheet inventories are the lightest. For several months, consumers have been fabricating substantially more tonnage than they have been buying. They buy only for spot needs and seldom have to wait more than two to three weeks for delivery.

Production of tin plate continues at a near-capacity level and

galvanized sheet are in good demand, with large quantities being used for ductwork in the air conditioning of office buildings.

On the basis of a modest improvement in orders, Youngstown reactivated two open hearth furnaces on March 1. Last week, Wheeling Steel Corp. brought three blast furnaces and its bessemer department back into production. On Monday of this week it is scheduled to reactivate two additional open hearths. But in Detroit, Jones & Laughlin Steel Corp. suspended operations.

On a national basis, the steelmaking rate dropped 1 point to 52.5% of capacity. Production was about 1,417,500 net tons of steel for ingots and castings as against 2,411,000 tons a year ago.

"Steel's" composite on the prime steelmaking grade of scrap held at \$37.17 a gross ton for the third week.

The American Iron and Steel Institute announced that the operating rate of steel companies will average 89.8% of steel capacity for the week beginning March 10, 1958, equivalent to 1,442,000 tons of ingot and steel for castings (based on average weekly production for 1947-1949) as compared with an actual rate of 88.7% of capacity, and 1,425,000 tons a week ago.

Output for the week beginning March 10, 1958 is equal to about 53.1% of the utilization of the Jan. 1, 1958 annual capacity of 140,742,570 net tons compared with actual production of 52.8% the week before.

For the like week a month ago the rate was 90.0% and production 1,445,000 tons. A year ago, the actual weekly production was placed at 2,401,000 tons, or 149.5%.

*Index of production is based on average weekly production for 1947-1949.

Electric Output Recorded Declines for 4th Straight Week

The amount of electric energy distributed by the electric light and power industry for the week ended Saturday, March 8, 1958, was estimated at 11,793,000,000 kwh., according to the Edison Electric Institute.

For the week ended March 9, 1958, output decreased 10,000,000 kwh. under that of the previous week and 74,000,000 kwh. or 0.6% below that of the comparable 1957 week, but increased 660,000,000 kwh. above that of the week ended March 10, 1956.

Car Loadings Climbed 12.4% Above Preceding Week And 21.4% Below a Year Ago

Loadings of revenue freight for the week ended March 1, 1958, were 61,256 cars or 12.4% above the preceding week, the Association of American Railroads reports.

Loadings for the week ended March 1, 1958, totaled 553,645 cars, a decrease of 150,338 cars or 21.4% below the corresponding 1957 week, and a decrease of 157,331 cars, or 22.1% below the corresponding week in 1956.

Automotive Output Reduced the Past Week as a Result Of Assembly Cuts and Plant Closings

Automotive production for the week ended March 7, 1958, according to "Ward's Automotive Reports," declined due to plant closings and cuts in car assemblies.

Last week's car output totaled 84,202 units and compared with 91,503 (revised) in the previous week. The past week's production total of cars and trucks amounted to 102,442 units, or a decrease of 6,517 units below that of the previous week's output, states "Ward's."

Last week's car output decreased under that of the previous week by 7,306 cars, while truck output climbed by 789 vehicles during the week. In the corresponding week last year 140,161 cars and 18,835 trucks were assembled.

Last week the agency reported there were 18,240 trucks made in the United States. This compared with 17,451 in the previous week and 18,835 a year ago.

Canadian output last week was placed at 6,080 cars and 1,155 trucks. In the previous week Dominion plants built 7,303 cars and 1,209 trucks and for the comparable 1957 week 8,749 cars and 1,308 trucks.

Lumber Shipments Fell 6.2% Below Output in Week Ended March 1, 1958

Lumber shipments of 433 reporting mills in the week ended March 1, 1958, were 6.2% below production, according to the National Lumber Trade Barometer. In the same period new orders were 10.9% below production. Unfilled orders amounted to 28% of stocks. Production was 3.6% above; shipments 1.8% above and new orders were 5.0% above the previous week and 21.6% below the like week in 1957.

Business Failures Continue to Climb in Latest Week

Commercial and industrial failures climbed to 358 in the week ended March 5 from 331 in the preceding week, Dun & Bradstreet, Inc., reports. At the highest level of any week since January 26, 1939, casualties exceeded the 327 occurring a year ago and the 268 in 1956. Continuing above the pre-war level for the sixth week, failures were 9% above the 286 in the comparable week of 1939.

Casualties involving liabilities of \$5,000 or more rose to 317 from 299 in the previous week and 282 last year. An increase also occurred among small failures with liabilities under \$5,000, lifting their total to 41 from 32, but remaining below their 1957 level of 45. Thirty-seven of the businesses failed with liabilities in excess of \$100,000 as compared with 32 in the preceding week.

All industry and trade groups except manufacturing suffered increases during the week. While the retailing total edged to 178 from 176 and wholesaling to 32 from 27, construction casualties climbed sharply to 50 from 38 and commercial service to 34 from 23. More failures occurred than last year in all lines. The most noticeable rise from the 1957 level centered in service concerns.

Six of the nine major geographic regions reported heavier casualties. While most of these week-to-week rises were mild, the East North Central total climbed considerably to 60 from 49. Only two declines appeared, including a dip in the Middle Atlantic States to 113 from 116. In the Pacific States, casualties held steady at 67. More businesses succumbed than a year ago in all regions except the South Central and Mountain States. New England reported over twice as many failures as last year and

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The State of Trade and Industry

the west North Central States also had a considerable increase from 1957.

Wholesale Food Price Index Climbs for 4th Straight Week to New 1958 High

The Dun & Bradstreet wholesale food price index rose for the fourth straight week to a new high for 1958 and was at the highest level since February 15, 1955 when the index stood at \$6.69. The index climbed 1.2% on March 4 to \$6.60 a week earlier. This was 9.7% higher than the \$6.09 of the comparable date last year.

Commodities quoted higher the past week were hams, hogs, beef, steers, eggs, potatoes, tea, wheat, corn, rye, oats and barley. Down in price were flour, sugar, cottonseed oil, milk, cocoa, lard, bellies and lambs.

The index represents the sum total of the price per pound of 31 raw foodstuffs and meats in general use and its chief function is to show the general trend of food prices at the wholesale level.

Wholesale Commodity Price Index Shows Further Slight Advances the Past Week

The general commodity price level advanced again last week, reflecting price increases on some grains, some livestock and cotton. The Dun & Bradstreet daily wholesale commodity price index reached 230.92 on March 3, slightly higher than the 230.40 of the prior week, but moderately below the 290.66 of the similar date a year ago.

Mixed trends prevailed in wholesale grain markets during the week. Transactions in corn exceeded expectations with noticeable increases in prices. While prices on wheat were close to those of a week earlier, costs of rye and oats slipped somewhat. Announcement that the Government would maintain its loan figure of \$2.09 a bushel for the 1958 soybean crop, the same price support as for the 1957 crop, resulted in a moderate price rise on soybeans at the beginning of the week, but declines occurred at the end of the period. Over the week-end the Department of Agriculture estimated that the yield of Winter and Spring wheat this year would be 1,150,000,000 bushels, about 200,000,000 bushels higher than last year or the largest crop since 1953.

Transactions in flour were sluggish again last week, causing prices to fall moderately. Flour receipts at New York railroad terminals on Friday amounted to 24,986 sacks with 8,846 for export and 16,140 for domestic use.

Increased buying for Lenten needs and a moderate gain in export sales helped hold rice prices at week earlier levels. There was a slight decline in raw sugar prices as trading dipped somewhat during the week.

Wholesalers reported a slight dip in coffee prices, resulting from reduced purchases and expanded stocks. A moderate decline in cocoa transactions occurred, paring prices below those of the preceding week.

Trading in steers in Chicago equalled that of a week earlier and made for increased prices. Although cattle receipts expanded slightly over the prior week, they were down about 10% from a year ago. Increased trading at the beginning of the week boosted hog prices, but they sagged somewhat at the end of the period. Hog receipts exceeded those of both the prior week and the similar 1957 period. There was a moderate dip during the week in lamb prices as purchases slackened. Wholesalers reported a slight decline in the price of lard.

Cotton buying was stimulated the past week by reports that the Department of Agriculture might remove about 5,100,000 acres from production this year and that unfavorable weather prevailed in some growing areas. This resulted in another increase in cotton prices on the New York Cotton Exchange. The Census Bureau reported that about 799,000 bales of cotton were consumed in the five week period from Dec. 29 to Feb. 1, compared with 842,000 in the similar period of 1957. Exports of cotton for the week ended last Tuesday were estimated at 162,000 bales as against 113,000 in the preceding week and 281,000 a year ago. Total exports for the current season through Feb. 25 were about 3,443,000 bales compared with 4,469,000 last season.

Trade Volume the Past Week Rose Further as Consumer Buying Increased

There was another moderate rise in consumer buying last week with total dollar volume equalling that of the similar week last year. Sales of women's Spring apparel were stimulated by favorable weather in many areas. Price reductions on electrical appliances helped volume in household goods. Automobile dealers reported a moderate rise in the call for new passenger cars, but noticeable year-to-year declines prevailed.

The total dollar volume of retail trade in the period ended on Wednesday was from 2% below to 2% higher than a year ago, spot estimates collected by Dun & Bradstreet, Inc. show. Regional estimates varied from the comparable 1957 levels by the following percentages: Middle Atlantic States +2 to +6%; New England +1 to +5; South Atlantic -1 to +3; Pacific Coast -2 to +2; East North Central and West South Central -3 to +1; Mountain -4 to 0; West North Central and East South Central States -5 to -1%.

An upsurge in the buying of women's Spring apparel occurred during the week, with principal gains in dresses, fashion accessories, coats, sportswear and millinery. Volume slightly exceeded that of a year ago. Although interest in men's suits, hats and furnishings advanced a bit from a week earlier, a slight year-to-year decline in over-all volume prevailed. Sales of children's apparel moderately exceeded those of the prior week.

The cancellation of fair trade policies by some manufacturers of electrical housewares resulted in lower retail prices in many lines and a considerable increase in consumer purchases of small electrical appliances over those of both the prior week and a year ago. While volume in major appliances and television sets improved, slight year-to-year declines prevailed. Despite a moderate gain in the buying of bedding, total sales of furniture

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The Economic Outlook

Unemployment is up to 4.49 million, the highest since 1950.

Despite this, we do not see such symptoms of previous depressions as drastic declines in prices, a sharply lower securities market, bank failures, sharply mounting bankruptcies, etc.

Before we discuss when and at what point the decline will end and reverse itself, we must determine the reasons for it and decide which factors may have about run their course.

I believe the decline from the 1957 high is a normal readjustment during a rising business trend and can be attributed to the following:

(1) The over-rapid expansion in production. It resulted in overproduction and accumulation of inventory.

(2) The sharp decline in defense orders, especially during the second and third quarters.

(3) A very tight money situation during the early part of 1957, a continuation of the trend during the latter part of 1956.

(4) A decline in plant and equipment outlays.

(5) Some weakening of consumer confidence resulting from increased unemployment, lower weekly take-home pay because of the cut in overtime, and the widespread emphasis on depression factors.

(6) A less favorable balance of trade.

I believe that the greatest effect of these various unfavorable factors has been felt, although there is very little likelihood of an immediate sharp upturn. I look for a reversal either in the next quarter or, at the latest, in the third quarter. It will come slowly. Let us say, graphically, the reversal will be U-shaped rather than V-shaped.

My own interpretation is that the present decline was caused mostly by inventory readjustment and sharply contracted defense orders. There is no doubt that the tight money policy, with a resultant lagging supply of money, has in turn had an effect on inventory. The trend of inventory accumulation or liquidation is extremely important in a business readjustment, as has been very evident during the postwar period. We added considerable inventory in 1952 and 1953 with a resultant readjustment in 1954. We added some inventory in 1956 and, to a lesser extent in 1957, but it was not equal to that in 1952 and 1953. The need to liquidate inventories (and I might say part of it has been found in areas where we didn't suspect it existed) has certainly been responsible for the decline in output, employment and payrolls.

were unchanged from last year. The call for linens fractionally exceeded that of the similar 1957 week.

There was a further rise in sales of baked goods, canned fish and dairy products, offsetting declines in canned goods and frozen foods. Volume in fresh meat, poultry and fresh produce equalled that of a week earlier.

Retailers noticeably stepped up their buying of women's Spring coats, suits, dresses and fashion accessories in preparation for an early Easter selling season. Trading in Easter merchandise rose most noticeably in the East as buyers anticipated a possible strike in the dress manufacturing industry in New York. Wholesale volume in men's apparel in the latest period was close to that of a week earlier.

Attendance at the New York Gift Show proved disappointing, and orders for glassware, dinnerware and gifts were somewhat below those of the similar event last year. There was a slight rise in purchases of air conditioners and fans. Volume in refrigerators, automatic dishwashers and television sets also expanded fractionally. Interest in furniture, draperies, floor coverings and linens was close to that of the previous week.

Textile wholesalers reported a slight increase in fill-in orders for cotton sheetings and print cloths, but over-all transactions in cotton gray goods were sluggish. There was a moderate gain in the buying of combed cotton knitting yarns. Interest in woollens and worsteds continued to sag, and sluggishness characterized sales of carpet wool in Boston and Philadelphia.

A moderate rise in the buying of fish, poultry and fresh meat occurred during the week. Interest in dairy products was sustained at a high level. The call for frozen foods dipped, and, as a consequence, wholesale inventories climbed somewhat.

New orders for machine tools rose about 10% in January to \$27,300,000 from \$24,900,000 in December, the National Machine Tool Builders Association reported. The total, however, was a sharp 64% below the January 1957 level of \$75,500,000, the high point of the year.

The outstanding installment debt decreased about \$368,000,000 in January, a sharper decline than the \$259,000,000 drop in January 1957. Much of the decrease was centered in auto paper, according to the Federal Reserve Board. Total installment credit outstanding at the end of January amounted to \$33,700,000, up 7% from that of the similar 1957 period.

Department store sales on a country-wide basis as taken from the Federal Reserve Board's index for the week ended Mar. 1, 1958, increased 1% above the like period last year. In the preceding week Feb. 22, 1958, a decrease of 18% was reported. For the four weeks ended Mar. 1, 1958 a decrease of 8% was reported. For the period Jan. 1, 1958 to Mar. 1, 1958 a decrease of 3% was recorded below that of 1957.

Retail trade sales volume in New York City the past week registered a 10 to 15% gain above the volume for the like period of 1957, trade observers reported.

Good weather, plus a pick up in ready-to-wear business as a result, the garment strike and continued heavy purchases of small appliances recently removed from fair trade restrictions accounted for the improvement during the week.

According to the Federal Reserve Board's index, department store sales in New York City for the weekly period ended Mar. 1, 1958 increased 3% above that of the like period last year. In the preceding week, Feb. 22, 1958 a decrease of 31% (revised) was reported. For the four weeks ended Mar. 1, 1958, a decrease of 6% was registered. For the period Jan. 1, 1958 to Mar. 1, 1958 a decline of 1% was registered below that of the corresponding period in 1957.

*Comparison period begins with Dec. 30-Jan. 4 week in 1958 and with Dec. 31-Jan. 5 week in 1957.

The accumulation of inventories was marked in capital goods and consumer durable goods. It was less significant in non-durable goods. Unfortunately, total inventory figures do not provide us with a perfect basis for analysis, inasmuch as a good portion of the total represents stocks of defense materials. It is my belief that by the end of this quarter or before the end of the second quarter, sufficient correction in inventories will have been made (especially with sales sustained) to encourage an upturn in output.

Decline to End Soon

I would expect that the sharply declining trend in orders should begin to reverse itself, but not to the extent of other periods of sharp upturns. The basis for my estimated conservative upturn is to be found in my subsequent discussion.

My belief that the present decline will not extend very much further in intensity or duration is based on several major considerations:

(1) The present decline in activity, having been initiated by the need to curtail excessive inventories, can be held to manageable proportions. Here it might be pointed out that while we have been focusing attention on curtailment of output in recent months, in reality it actually started in the early part of 1957.

(2) Defense orders placed in the past 90 days have shown a sharp upturn. To some extent they match in volume the decline recorded in the second and third quarters.

(3) State and local spending, which has been tending steadily upward (a normal development with increased needs of a rising population), continues to expand.

(4) Easy money has already shown its effect in the bond market where the advance has been one of the greatest in some time and yields have already decreased considerably. It has also helped the government in its refinancing program. This easier money trend has also been evident in the supply of mortgage money.

(5) Residential volume has shown signs of having reached a low. While there is little likelihood of an immediate sharp sustained upturn, the outlook is for an improvement above the 1957 low level. New residential starts of up to 1.1 million for the year are not too much to expect. This is still less than our needs.

(6) The outlook is also favorable for new construction as a whole. The government has already estimated that the total will approximate 5% more than in 1957. In addition to the improvement in residential building and an increase in home additions and alterations, there are also definite indications of an increase in public construction, with new highways providing part of the stimulus. In fact, increases are also indicated for hospital and institutional building.

Moderate Upturn

One of the major differences between 1958 and 1954 is that there is not much likelihood of an upturn equal in intensity to that of 1954. The second most important difference is that I do not see unemployment showing the same rate of decline by the end of the year as it did during the latter part of 1954. The reason for a lag in the upturn in employment is to be found in full employment and the tight labor market which has existed since the beginning of the war. While it may be difficult to prove, I believe we may have been hoarding about one million workers since the beginning of the war. Naturally, many of these have been in the labor force who, under normal conditions, would not have been there. With margins squeezed and with labor costs high and still

rising, although at a smaller rate of gain, the tendency will be to operate more efficiently and avoid over-staffing. More important, I expect an increase in productivity, a normal development following a business decline of the proportions of the current one.

In indicating a moderate upturn, I am not ignoring the prospects of a continued lag in plant and equipment outlays during the rest of the year and possibly into early 1959. We can hardly be expected to increase our plant and equipment outlays as long as we are operating at 78% to 80% of capacity. Even with a decline, which I don't expect will be more than \$4.5 billion, annual rate, from the 1957 high to the 1958 low, the total will still be very large. Nevertheless, it is still a negative factor in the economic trend.

This lag in plant and equipment outlay will be offset by greater defense spending. National security spending will rise steadily and outlays of \$40 billion for defense are certainly in the cards.

Those among us who are talking about recession or depression seem to overlook a very important economic factor that did not exist before the war or even during the period immediately preceding the Korean War. That factor is government spending, and particularly spending for defense.

Who among us would be foolish enough to believe that we will cut back defense spending drastically with the threat of Communism facing us? Who among us would be foolish enough to think we will again allow ourselves to be caught unprepared as we were at the outbreak of the Korean War? Who among us would be foolish enough to think America would not try to catch up and exceed the Russian scientific developments of recent months.

In my book, "No Major Depression In Our Lifetime," I have given a fuller analysis to the part played by government spending in the modern economy. Defense spending is not the only item in government spending. Government spending has become and will continue to be an important tool in the support of the national economy.

Consumer Is the Key

So much for business and government spending as components of gross national expenditures. There remains the most important spender—the consumer. Most of the answer to this year's recovery is the consumer. The importance of consumer spending to gross national spending can easily be realized when it is noted that of a gross national spending total of \$433.9 billion in 1957, consumer expenditures amounted to \$280.4 billion. Consumer spending, therefore, represented 67% of the total.

Consumer spending is influenced by income, unemployment, savings, debt and psychology. Let's take up some of these items.

Income—Disposable income (personal income after taxes) will average nominally greater this year than in 1957. If there is a personal tax cut as seems likely, the consumer's position will be that much better—and a tax cut cannot be ruled out at the present time.

Employment—Total unemployment now is at 4½ million. There has been a slowing down in the rate of increase and, in fact, some re-employment may develop while unemployment still gains. Employment will tend higher later in the year, while unemployment will decrease.

Savings—Consumer cash and holdings of "E" bonds at the end of 1957 approximated \$234 billion, or about \$9 billion more than a year ago. On the other hand, the increase in short-term debt in 1958 amounted to less than \$3 billion.

Psychology—At no time since the downturn began has the pub-

lic's psychological reaction been one of fear. Sales in December and January proved to be more favorable than was expected earlier. The decline in October-November which caused a great deal of concern must be partly explained by other than economic reasons—the flu epidemic, Sputnik, the President's illness, weather, etc.

While consumer spending may lack aggressiveness, it should compare favorably with last year's record volume. I do not agree that consumer spending is going to go way down. How often have I heard in recent weeks that the public does not have to buy. The public can wait. Time and again it is emphasized that the consumer is well stocked with automobiles, washing machines, stoves, refrigerators, television sets; that its wardrobe is well stocked with apparel. Time and again I hear that the consumer will wait with all except absolutely necessary purchases until the economic atmosphere clears and there is greater assurance that he will not be drawn into the ranks of the unemployed.

These cautions are absolutely unrealistic.

The American consumer is not going to sit around waiting for a depression. Those who think he is are ignoring the rising trend of population, the higher standard of living and the needs and desires of the American public. They are under-estimating the changing economic forces of recent years.

Why Consumer Will Not Sit Around

A few facts should be of interest to you in connection with consumer needs and wants.

The current tendency has been to look to the past for some guidance. One of the factors that has always been looked to has been what happened after each major war. One cannot ignore history, but it would be short-sighted and unrealistic to ignore the fact that the world of 1958 is quite different than 10 years after World War I, the Civil War or the Spanish-American War. Time would not permit me to distinguish between the past and the present. Thus, while one should be cognizant of the past, one must consider the differences that exist currently.

This does not spell out a depression. We are literally catching our breath before continuing onward, but it doesn't imply that the next 10 years will be a repetition of the past in every respect. Our capacity is larger and our costs are greater. The fact remains that we have failed to grow in the past several years; that our economy has been expanding more in dollars than in physical volume; labor must take another look at its policy of steadily rising wages without a pause for consolidation.

In this connection, may I point out that this is an unusual type of readjustment. The wholesale and retail price indexes have hardly shown a ripple. This explains Washington's concern about the forthcoming inflation while we are still in a deflationary trend.

In the meantime, the Government is concerned about the present rise in unemployment and how to rectify the situation. This is an important election year. Government assistance through tax reductions, monetary manipulation and spending for defense and public works will be an important instrument in support of the economy.

Summary

Summarizing my conclusions, they are as follows:

General business activity, based on Gross National Product and total production, should reach a low not later than the second

quarter, but more likely toward the end of the first quarter. The upturn will be slow and, in fact, the gain in employment may lag as compared with the upturn in output and Gross National Product.

Disposable income will average higher for the year despite the increased unemployment and the lower take-home pay. Transfer payments will act as a support to personal income.

Inventory liquidation, a key item in the present decline, should terminate not later than some time in the second quarter. However, inventory accumulation will lag, especially in view of the relative stability in prices.

While average wholesale prices will be fractionally higher for the year, individual items may show rather wide fluctuations. In general, the 1957-58 decline will be characterized by remarkable price stability.

The consumer has not been frightened and it is not likely that he will become frightened. He will continue to be a bulwark of an essentially healthy economic situation.

The Government will give support through various means, especially in view of the fact that 1958 is an important election year.

The American businessman will act as he always has during a period of marked competition. He will resort to creating something new, something different, at excellent values. As in the past several years, it will be a question of selling rather than producing.

Most of the factors will contribute to the strengthening of the American economy at a time when it vitally needs to be strong. The threat of Communism is still great. While Communist military penetration is not making progress at the moment, economic penetration is gaining ground. We all know that a strong American economy is essential to the free world.

The need for a strong economy does not mean that we will not have temporary marked fluctuations in the business situation. America's needs for economic literacy—including the Government, and the businessman, are greater than at any time in our history.

Central States Group Of IBA Conference

CHICAGO, Ill.—The Central States Group of the Investment Bankers Association of America will hold its 22nd annual conference March 19 and 20 at the Drake.

Speakers scheduled for the conference are Dr. Philip M. Hauser, University of Chicago, on "Dynamics America—Population Trends and Forecasts"; Professor Malcolm Dole, Northwestern University, on "Industrial Uses of Atomic Energy"; Edward P. Rubin, Security Supervisors, on "Outlook for Business and Securities Markets"; Rilea W. Doe, Safeway Stores, on "Three Little Adages and How They Grew"; Shelby Cullom Davis, Shelly Cullom Davis & Co., on "Opportunities for Insurance Stocks."

Westheimer Adds to Staff

(Special to THE FINANCIAL CHRONICLE)

CINCINNATI, Ohio—Mrs. Elizabeth D. Carlin has been added to the staff of Westheimer and Company, 322 Walnut Street, members of the New York and Cincinnati Stock Exchanges.

With Edward N. Siegler

(Special to THE FINANCIAL CHRONICLE)

CLEVELAND, Ohio—Samuel L. Stein has become affiliated with Edward N. Siegler & Co., Union Commerce Building, members of the Midwest Stock Exchange.

Public Utility Securities

By OWEN ELY

Interstate Power Company

Interstate Power serves an area of about 10,000 square miles (properties being fully interconnected) in northern Iowa, Southern Minnesota and northwestern Illinois. The area is in the richest farming section of the country. Dubuque, Iowa, is the largest city served, with a population of 58,000. Among other communities served are Clinton, Iowa, 35,000; Mason City, Iowa, 30,000; and Albert Lea, Minnesota, 19,000. Electricity accounts for about 83% of revenues, gas 16%, and bus about 2%, with a small amount of steam and hot-water heating. Electric revenues are about 47% residential and rural, 26% commercial, 12% industrial and 15% miscellaneous.

Principal activities of the territory are agriculture, including the raising of corn, wheat, oats, alfalfa, peas, soy beans, poultry, cattle and hogs; dairy farming; and food packing and processing. Industries manufacture furniture, cellophane, tractors, steel products and wood milling.

The company has been acquiring new properties and rounding out its territory. In 1956 it acquired and merged Northwestern Illinois Gas & Electric Co. with headquarters at Savannah, Ill., increasing 1956 revenues by about \$550,000 as a result. On May 29, 1957 it purchased the People's Gas & Electric Division of Kansas City Power & Light Co., serving about 18,600 electric and 14,000 gas customers in Mason City, Iowa and eight adjacent communities. The area thus acquired has an estimated population of 60,000 of which about half is in Mason City, a trading and distribution center. Local industries include a meat packing plant, two cement plants, a brick and tile works, a soy bean plant and a beet sugar extraction plant. As a result of the 1957 acquisition (together with new construction) net utility plant increased from \$63 million to \$83 million, a gain of nearly one-third. New plant included a steam generating station in Mason City with rated capacity of 26,000 kw., and a 5,000 mcf. LP peak shaving gas plant.

The company was reorganized as of March 31, 1948 and dividends have been paid since Sept. 20 of that year. As indicated in the accompanying table, the company has had a good growth record, though some of the gain was due to mergers. Revenues increased from \$9 million in 1946 to nearly \$26 million in 1957 and net income from \$1,526,000 to \$3,712,000. However, share earnings are about where they were in 1948. The disappointing trend of share earnings seems partly due to a decline in the percentage earned on invested capital, plus an increase in the common stock equity from 18% to over 31%. Earnings are expected to make a better showing in 1958, being budgeted at \$1.05 to \$1.10 a share.

The company in May last year sold \$20 million 1st 5% bonds and 680,000 shares of common stock, to finance the acquisition of the Mason City properties and to apply on construction and pay off bank loans. It will require about \$6 million bank loans to carry out the 1958 construction program. It is expected that about \$12 million of permanent financing will be consummated in 1959 to retire bank loans and to provide funds for construction; a substantial amount would probably be in first mortgage bonds.

Interstate Power operates principally in two states (Iowa and Minnesota) which have no state commissions to regulate rates; on the other hand Iowa utilities have encountered some difficulties with municipalities in trying to raise gas rates. Interstate has some gas-rate schedules which provide for automatic adjustments covering variations in the cost of gas and it hopes to negotiate such schedules in other municipalities. Substantially all industrial electric power sales, sales to other electric utilities, and a small per cent of electric sales to other classes of business are made under rate schedules or contracts which provide for rate adjustments to compensate for variations in the prices of coal, oil and natural gas used for boiler fuel. Electric rate schedules with fuel clause adjustments covering all classes of electric service are now being filed in all communities served.

Interstate Power has been selling recently around 14¾ to yield about 5.4%. The price-earnings ratio based on budgeted 1958 earnings approximates 13.8.

Year—	Revenues	Earnings	Common Stock Record	
			Dividends	Approx. Range
1957-----	\$26	\$1.01	\$0.80	14½-12
1956-----	20	1.00	0.77	15¼-13
1955-----	19	1.00	0.72	15¾-12¾
1954-----	18	0.97	0.685	14 -10½
1953-----	17	0.91	0.63	11 - 9½
1952-----	16	0.89	0.60	10½- 8¾
1951-----	15	0.80	0.60	9 - 7½
1950-----	14	0.84	0.60	9¾- 7¼
1949-----	13	0.94	0.60	8¾- 6¼
1948-----	11	1.02	0.30	7¼- 5¾
1947-----	10	---	---	-----
1946-----	9	---	---	-----

With Mountain States

(Special to THE FINANCIAL CHRONICLE)

DENVER, Colo.—Roy E. Patterson has been added to the staff of Mountain States Securities Corporation, Denver Club Building.

With A. L. Albee

(Special to THE FINANCIAL CHRONICLE)

BOSTON, Mass.—Arthur F. Tole has become connected with A. L. Albee & Co., Inc., 4 Liberty Square.

With Capital Securities

(Special to THE FINANCIAL CHRONICLE)

CHICAGO, Ill.—Arthur A. Fishman is now connected with Capital Securities Company, 209 South La Salle Street.

Joins Shaine Staff

(Special to THE FINANCIAL CHRONICLE)

GRAND RAPIDS, Mich.—Justin J. Emery has joined the staff of H. B. Shaine & Co. Inc., McKay Tower, members of the New York Stock Exchange.

Securities Now in Registration

★ INDICATES ADDITIONS
SINCE PREVIOUS ISSUE
● ITEMS REVISED

Aeronca Manufacturing Corp.

Feb. 10 (letter of notification) 5,000 shares of common stock (par \$1). Price—\$6 per share. Proceeds—To go to selling stockholder. Office—Germantown Road, Middletown, Ohio. Underwriter—Greene & Ladd, Middletown, Ohio.

Air-Shields Inc.

Feb. 19 (letter of notification) 4,650 shares of common stock (par \$1). Price—\$21.50 per share. Proceeds—To selling stockholder. Office—330 Jacksonville Rd., Hatboro, Pa. Underwriter—W. H. Newbold's Son & Co., Philadelphia, Pa.

American-Caribbean Oil Co. (N. Y.)

Feb. 28 filed 500,000 shares of common stock (par 20¢). Price—To be supplied by amendment. Proceeds—To discharge current liabilities and to drill ten wells. Underwriters—To be named by amendment.

★ American Electronics, Inc. (3/31-4/4)

March 6 filed \$3,500,000 of convertible subordinated debentures due 1973 and 80,000 shares of common stock (par \$1). Price—100% of principal amount for debentures; and at price to be supplied by amendment for common stock. Proceeds—\$148,000 to retire the 6% debentures of Taller & Cooper, Inc., a subsidiary; \$2,250,000 to reduce bank loans; and the balance for working capital and other corporate purposes. Underwriters—Dean Witter & Co., San Francisco, Calif.; Van Alstyne, Noel & Co., New York, N. Y.; and Crowell, Weedon & Co., Los Angeles, Calif.

★ American Investment and Income Fund, Inc.

March 11, filed \$5,000,000 of investment plans for the accumulation of shares in this fund. Price—At market. Proceeds—For investment. Office—Washington, D. C. Underwriter—None.

American Life & Casualty Insurance Co.

Dec. 3 filed 101,667 shares of common stock (par \$1) to be offered for subscription by common stockholders at the rate of one new share for each two shares held; unsubscribed shares to be offered to public. Price—\$10 per share. Proceeds—For capital and surplus accounts. Office—Fargo, N. D. Underwriter—None.

American Mutual Investment Co., Inc.

Dec. 17 filed 490,000 shares of capital stock. Price—\$10.20 per share. Proceeds—For investment in first trust notes, second trust notes and construction loans. Company may develop shopping centers and build or purchase office buildings. Office—900 Woodward Bldg., Washington, D. C. Underwriter—None. Sheldon Magazine, 1201 Highland Drive, Silver Spring, Md., is President.

American Provident Investors Corp.

Feb. 15, 1957, filed 50,000,000 shares of common stock (par one cent). Price—\$2 per share. Proceeds—For working capital and general corporate purposes. Office—Dallas, Tex. Underwriter—Peoples Securities Co., J. D. Grey, of New Orleans, John S. Tanner, of Dallas, and C. L. Edmonds, of Houston, three of the 22 directors, are Chairman, Vice-Chairman and President, respectively.

Anderson Electric Corp.

Dec. 23 (letter of notification) 14,700 shares of class B common stock (par \$1). Price—\$12 per share. Proceeds—To go to selling stockholders. Office—700 N. 44th Street, Birmingham, Ala. Underwriters—Crutenden, Podesta & Co., Chicago, Ill.; and Odess, Martin & Herzberg, Inc., Birmingham, Ala.

Andes Copper Mining Co.

Feb. 6 (letter of notification) 6,277 shares of class B capital stock being offered to minority stockholders at rate of one share of class B stock for each six shares of capital stock (par \$14) held as of Feb. 28, 1958; rights to expire on March 18. Price—At par (\$25 per share). Proceeds—To pay outstanding obligations to Anaconda Co., the parent, for funds advanced. Underwriter—None.

Anita Cobre U. S. A., Inc., Phoenix, Ariz.

Sept. 30 filed 85,000 shares of common stock. Price—At par (\$3.75 per share). Proceeds—For investment in subsidiary and working capital. Underwriter—Selected Securities, Inc., Phoenix, Ariz.

Bankers Fidelity Life Insurance Co.

Feb. 28 filed 258,740 shares of common stock (par \$1), of which 125,000 shares are to be offered publicly and 133,740 shares to employees pursuant to stock purchase options. Price—To public, \$6 per share. Proceeds—For expansion and other corporate purposes. Office—Atlanta, Ga. Underwriter—None.

Bankers Management Corp.,

Feb. 10 filed 400,000 shares of common stock (par 25 cents). Price—\$1 per share. Proceeds—To reduce outstanding indebtedness and for working capital. Office—Houston, Texas. Underwriter—McDonald, Holman & Co., Inc., New York.

Bishop Oil Co., San Francisco, Calif. (3/21)

Feb. 27 filed 112,565 shares of common stock (par \$2) to be offered for subscription by common stockholders of record March 20, 1958, on the basis of one new share for each five shares held; rights to expire on April 3. Price—To be supplied by amendment. Proceeds—For reduction of bank loans, expansion and general corporate purposes. Underwriter—Hooker & Fay, San Francisco, Calif.

Blacksmith Shop Pastries Inc., Rockport, Mass.

Sept. 17 (letter of notification) \$100,000 of 6½% debentures dated Sept. 16, 1957 and due Sept. 15, 1972 and 40,000 shares of capital stock (par \$1) to be offered in units of one \$50 debenture and 20 shares of capital stock. Price—\$90 per unit. Proceeds—To retire mortgage notes and for working capital. Underwriter—Mann & Gould, Salem, Mass.

Bridgeport & Port Jefferson Steamboat Co.

Jan. 30 (letter of notification) 30,000 shares of common stock (par \$5) to be offered for subscription by common stockholders of record Dec. 31, 1957 at the rate of three new shares for each two shares held. Price—\$10 per share. Proceeds—To construct new vessel. Offices—Port Jefferson, N. Y.; and Bridgeport, Conn. Underwriter—None.

★ Brunswick-Balke-Collender Co. (4/2)

March 11 filed \$8,593,200 of 15-year convertible subordinated debentures due April 1, 1973, to be offered for subscription by common stockholders of record April 2, 1958 at the rate of \$100 of debentures for each 18 shares of stock held; rights to expire about April 16. Price—To be supplied by amendment. Proceeds—For working capital. Underwriters—Lehman Brothers and Goldman, Sachs & Co., both of New York.

● Camoose Uranium Mines of America, Inc.

Jan. 9 filed 3,000,000 shares of common stock (1 cent par), all owned by Camoose Mines Ltd., which is in liquidation and has equivalent amount of stock outstanding (1 cent par). Camoose Mines will issue as a liquidating dividend, on a share-for-share basis, the 3,000,000 Canadian Uranium Mines shares it owns. Office—New York City. Underwriter—None. Statement effective March 5.

★ Campbell Chibougama Mines Ltd.

March 10 filed 606,667 shares of capital stock (par \$1), of which 506,667 were issued in connection with the acquisition of all the assets of Yoran Exploration Ltd. (latter proposes to distribute said shares ratably to its stockholders of record Dec. 16, 1957). The remaining 100,000 shares are to be sold for the account of the Estate of A. M. Collings Henderson on the American and Toronto Stock Exchanges. Price—At market. Proceeds—To selling stockholders. Office—Toronto, Canada. Underwriter—None.

★ Campbell Pre-Fab Inc.

March 3 (letter of notification) 50,000 shares of common stock. Price—At par (\$1 per share). Proceeds—For construction of building and working capital. Office—Carbaugh Street, West Middlesex, Pa. Underwriter—None.

Carolina Power & Light Co. (3/18)

Feb. 17 filed \$20,000,000 first mortgage bonds due 1988. Proceeds—To repay bank loans and for construction program. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Kidder, Peabody & Co. and Merrill Lynch, Pierce, Fenner & Smith (jointly); Lehman Brothers; Blyth & Co., Inc.; W. C. Langley & Co. and The First Boston Corp. (jointly); Equitable Securities Corp. Bids—To be received up to 11 a.m. (EST) on March 18 at Room 2033, Two Rector St., New York 6, N. Y.

Central Mortgage & Investment Corp.

Sept. 12 filed \$5,000,000 of 20-year mortgage bonds and 500,000 shares of common stock (par five cents) to be offered in units of \$100 of bonds and 10 shares of stock. Price—\$100.50 per unit. Proceeds—For purchase of first mortgages or to make first mortgage loans and for construction business. Office—Miami Beach, Fla. Underwriter—Aetna Securities Corp., New York. Offering—Date indefinite.

★ Century Shares Trust, Boston, Mass.

March 4 filed (by amendment) an additional 150,000 shares of capital stock (par \$1). Price—At market. Proceeds—For investment.

★ Cessna Aircraft Co.

March 3 (letter of notification) 3,333 shares of common stock (par \$1). Price—\$30 per share. Proceeds—To go to a selling stockholder. Office—5800 Pawnee Road, Wichita, Kan. Underwriter—Francis I. du Pont & Co., Wichita, Kan.

Chess Uranium Corp.

May 14 (letter of notification) 600,000 shares of common stock (par \$1—Canadian). Price—50 cents per share (U. S. funds). Proceeds—For exploration costs, etc. Office—5616 Park Ave., Montreal, Canada. Underwriter—Jean R. Veditz Co., Inc., 160 Broadway, New York.

● Cincinnati Gas & Electric Co.

Feb. 20 filed 450,923 shares of common stock (par \$8.50) being offered for subscription by common stockholders of record March 11, 1958, on the basis of one new share for each 16 shares held; rights to expire on March 26. Price—\$28.50 per share. Proceeds—For construction and improvements, to repay bank loans, and for other corporate purposes. Underwriters—Morgan Stanley & Co., W. E. Hutton & Co., and Blyth & Co., Inc., all of New York.

★ Cities Service Co., New York

March 10 filed \$11,250,000 of participations in company's employees thrift plan, together with 250,000 shares of common stock (par \$10) which may be purchased under the provisions of the plan.

Commerce Oil Refining Corp.

Dec. 16 filed \$25,000,000 of first mortgage bonds due Sept. 1, 1968, \$20,000,000 of subordinated debentures due Oct. 1, 1968 and 3,000,000 shares of common stock to be offered in units as follows: \$1,000 of bonds and 48 shares of stock and \$100 of debentures and nine shares of stock. Price—To be supplied by amendment. Proceeds—To construct refinery. Underwriter—Lehman Brothers, New York. Offering—Indefinite.

● Commonwealth Telephone Co., Dallas, Pa. (3/20)

Feb. 28 filed 71,200 shares of common stock (par \$10) to be offered for subscription by common stockholders of record March 7, 1958 at the rate of one new share for each five shares held; rights to expire on April 3. Price—To be supplied by amendment. Proceeds—To repay bank loans. Underwriter—Eastman Dillon, Union Securities & Co., New York.

Consolidated Edison Co. of N. Y., Inc. (4/22)

March 3 filed \$50,000,000 of first and refunding mortgage bonds, series O, due April 1, 1988. Proceeds—To retire short-term bank loans and for construction program. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Morgan Stanley & Co.; The First Boston Corp. Bids—To be received by company up to 11 a.m. (EST) on April 22.

Continental Mining & Oil Corp.

Dec. 9 (letter of notification) 250,000 shares of common stock (par 10 cents). Price—\$1 per share. Proceeds—For mining expenses. Office—1500 Massachusetts Avenue, N. W., Washington, D. C. Underwriter—E. L. Wolfe Associates, 1511 K St., N.W., Washington, D. C.

★ Corn Belt Packing Co.

March 6 (letter of notification) 100,000 shares of common stock (par \$1), and \$200,000 principal amount of 7% first mortgage bonds due serially Jan. 1, 1974 to Jan. 1, 1984 (in denominations of \$100). Price—At par. Proceeds—To purchase land and building equipment and operating capital. Office—205 Laub Block, Denison, Iowa. Underwriter—None.

Counselors Research Fund, Inc., St. Louis, Mo.

Feb. 5 filed 100,000 shares of capital stock (par one cent). Price—At market. Proceeds—For investment. Underwriter—Counselors Research Sales Corp., St. Louis. Robert H. Green is President.

Cubacor Explorers, Ltd.

Oct. 28 (letter of notification) 600,000 shares of common stock (par \$1—Canadian). Price—50 cents per share—U. S. funds. Proceeds—For exploration and drilling costs. Office—Suite 607, 320 Bay St., Toronto, Ont., Canada. Underwriter—Stratford Securities Co., Inc., 135 Broadway, New York. Offering—Postponed indefinitely.

Daybreak Uranium, Inc., Opportunity, Wash.

Jan. 29 filed 1,156,774 shares of common stock (par 10 cents), of which 630,000 shares are to be offered for account of company and 526,774 shares for selling stockholders. Price—At market. Proceeds—For exploration and drilling costs and other corporate purposes. Underwriter—Herrin Co., Seattle, Wash.

Diapulse Manufacturing Corp. of America

Jan. 29 (letter of notification) 150,000 shares of common stock (par 10 cents). Price—\$2 per share. Proceeds—For general corporate purposes. Office—276 Fifth Ave., New York, N. Y. Underwriter—None.

Digitronics Corp.

Feb. 12 (letter of notification) 140,000 shares of class B capital stock (par 10 cents). Price—\$1.50 per share. Proceeds—For general corporate purposes. Office—Albertson Avenue, Albertson, Long Island, N. Y. Underwriter—Cortlandt Investing Corp., 135 Broadway, New York 6, N. Y.

Disc, Inc., Washington, D. C.

Oct. 10 filed 400,000 shares of class A common stock (par \$1). Price—\$2.50 per share. Proceeds—For investment. Business—Purchase and development of real property, and acquisition of stock of business enterprises. Underwriter—None. Irving Lichtman is President and Board Chairman.

● Dixon Chemical & Research, Inc.

Dec. 24 filed 165,625 shares of common stock (par \$1) to be offered for subscription by common stockholders at the rate of one new share for each four shares held. Price—To be supplied by amendment. Proceeds—For expansion and general corporate purposes. Office—Clifton, N. J. Underwriter—P. W. Brooks & Co., Inc., New York. Offering—Indefinitely postponed. Other financing may be arranged.

Dresser Industries, Inc.

Feb. 28 filed 128,347 shares of common stock (par 50¢) to be offered in exchange for outstanding common stock of the Elgen Corp. on the basis of one share of Dresser Industries common for 3.4 shares of Elgen's common. No exchanges will be made unless the exchange offer is accepted by the holders of at least 80% of the outstanding Elgen common, and Dresser will not be obligated to consummate any exchanges unless the offer is accepted by the holders of at least 95% of the outstanding Elgen common. Underwriter—None.

Duquesne Light Co. (4/9)

March 12 filed \$15,000,000 of first mortgage bonds, due April 1, 1988. Proceeds—To repay bank loans and for construction program. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; White, Weld & Co.; Glore, Forgan & Co.; Kuhn, Loeb & Co.; Eastman

Dillon, Union Securities & Co., and A. C. Allyn & Co. Inc. (jointly); Drexel & Co. and Equitable Securities Corp. (jointly). **Bids**—Tentatively expected to be received on April 9.

★ **Eaton & Howard Balanced Fund, Boston, Mass.** March 3 filed (by amendment) an additional 500,000 trust shares (par \$1). **Price**—At market. **Proceeds**—For investment.

Ethodont Laboratories, Berkeley, Calif. Feb. 20 filed 300,000 shares of common stock. **Price**—At par (\$5 per share). **Proceeds**—To cover operating expense during the development period of the corporation. **Underwriter**—None.

★ **Ex-Cell-O Corp., Detroit, Mich.** Nov. 25 filed 88,000 shares of common stock (par \$3) to be offered in exchange for common stock of Bryant Chucking Grinder Co. of Springfield, Va., at rate of four-tenths of an Ex-Cell-O share for each full Bryant share. Offer will become effective upon acceptance by holders of not less than 209,000 shares (95%) of all common stock of Bryant outstanding. **Underwriter**—None.

★ **Expanded Shale Products, Inc., Denver, Colo.** Jan. 29 filed 60,000 shares of common stock (par \$1) and \$180,000 of 6% callable unsubordinated unsecured debenture notes due 1960-1964 to be offered in units of \$600 of notes and 200 shares of stock. **Price**—\$1,000 per unit. **Proceeds**—For construction of plant, working capital and other corporate purposes. **Underwriter**—Minor, Mee & Co., Albuquerque, N. M.

★ **Famous Virginia Foods Corp.** Jan. 30 (letter of notification) 19,500 shares of common stock (par \$5) and 390 common stock purchase warrants to be offered in units of 50 shares of stock and one warrant. **Price**—\$500 per unit. **Proceeds**—For equipment and working capital. **Office**—922 Jefferson St., Lynchburg, Va. **Underwriter**—Whitney & Co., Inc., Washington, D. C.

★ **Famous Virginia Foods Corp.** Nov. 6 (letter of notification) 5,000 shares of common stock. **Price**—\$6.67 per share. **Proceeds**—To selling stockholder. **Office**—922 Jefferson St., Lynchburg, Va. **Underwriter**—Whitney & Co., Inc., Washington, D. C. Letter subsequently withdrawn.

★ **Farrar Drilling Co.** Feb. 3 (letter of notification) 150,000 shares of common stock (par five cents). **Price**—\$2 per share. **Proceeds**—For oil and gas drilling expenses. **Office**—316 Rogers Bldg., Mt. Vernon, Ill. **Underwriter**—Paul A. Davis & Co., Miami, Fla.

★ **Fidelity Bankers Life Insurance Corp., Richmond, Va.**

March 7 filed 450,000 shares of common stock (par \$1) to be offered for subscription by holders of outstanding stock on a pro rata basis; thereafter the balance remaining, if any, will be offered to the public. **Price**—\$5 per share to stockholders; and to the public at a price to be determined. **Proceeds**—For expansion and other corporate purposes. **Underwriter**—None.

★ **Fidelity Capital Fund, Inc., Boston, Mass.** Feb. 6 filed 20,000 shares of capital stock, of which 10,000 shares were previously sold privately and the balance is to be offered to a limited number of investors. **Price**—\$10 per share. **Proceeds**—For investment. **Underwriter**—The Crosby Corp., Boston, Mass.

★ **Fidelity Fund, Inc., Boston, Mass.** March 10 filed (by amendment) an additional 3,000,000 shares of capital stock (par \$1). **Price**—At market. **Proceeds**—For investment.

★ **Fidelity Trend Fund, Inc., Boston, Mass.** Feb. 6 filed 20,000 shares of capital stock, of which 10,000 shares were previously sold privately and the balance is to be offered to a limited number of investors. **Price**—\$10 per share. **Proceeds**—For investment. **Underwriter**—the Crosby Corp., Boston, Mass.

★ **First International Fire Insurance Co.** Aug. 26 (letter of notification) 100,000 shares of common stock (par \$1). **Price**—\$3 per share. **Proceeds**—For capital and surplus and for first year's deficit. **Office**—3395 S. Bannock St., Englewood, Colo. **Underwriter**—American Underwriters, Inc., Englewood, Colo.

★ **First Leaseback Corp., Washington, D. C.** Nov. 27 filed 500,000 shares of class A common stock (par five cents). **Price**—\$5 per share. **Proceeds**—To purchase properties. **Underwriter**—Whitmore, Bruce & Co., Washington, D. C.

★ **Florida Power & Light Co. (3/24)** Feb. 27 filed \$20,000,000 of first mortgage bonds, series due 1988. **Proceeds**—To provide additional electric and gas facilities and for other corporate purposes. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Merrill Lynch, Pierce, Fenner & Smith and Kidder, Peabody & Co. (jointly); The First Boston Corp. **Bids**—To be received up to 11:30 a.m. (EST) on March 24 at Room 2033, Two Rector St., New York 6, N. Y.

★ **Fluorspar Corp. of America** Dec. 26 filed 470,000 shares of common stock (par 25 cents). **Price**—\$3 per share. **Proceeds**—For exploration work and working capital. **Office**—Portland, Ore. **Underwriter**—To be named by amendment. Sol Goldberg is President.

★ **Forest Laboratories, Inc.** Aug. 28 filed 200,000 shares of capital stock (par 10 cents). **Price**—\$2.50 per share. **Proceeds**—For sales promotion of company's products, working capital, additional inventory and accounts receivable, for research and development and for other general corporate purposes. **Office**—Brooklyn, N. Y. **Underwriters**—Alfred L. Powell Co., New York; and H. Carroll & Co., Denver, Colo.

Freeman Electric Construction Co., Inc.

Nov. 27 (letter of notification) 100,000 shares of common stock (par 10 cents). **Price**—\$3 per share. **Proceeds**—To reduce accounts payable, etc., and for working capital and general corporate purposes. **Office**—New York Underwriter—Harris Securities Corp., New York City

General Aniline & Film Corp., New York

Jan. 14 filed 426,988 shares of common A stock (no par) and 1,537,500 shares of common B stock (par \$1). **Proceeds**—To the Attorney General of the United States **Underwriter**—To be determined by competitive bidding Probable bidders: Blyth & Co., Inc., and The First Boston Corp. (jointly); Kuhn, Loeb & Co., Lehman Brothers, and Glore, Forgan & Co. (jointly). **Bids**—Had been scheduled to be received up to 3:45 p.m. (EDT) on May 13 at Room 654, 101 Indiana Ave., N. W., Washington 25 D. C., but bidding has been postponed.

General Credit, Inc., Washington, D. C.

Aug. 17, 1956 filed \$2,000,000 of 6% subordinated sinking fund debentures, due Sept. 1, 1971, with detachable warrants to purchase 160,000 shares of participating preference stock, to be offered in units of \$500 of debentures and 40 warrants. **Price**—\$500 per unit. **Proceeds**—For expansion and working capital. **Underwriter**—None named. Offering to be made through selected dealers Application is still pending with SEC.

General Electronics Distributors Inc.

Feb. 10 (letter of notification) 2,090 shares of common stock (par \$25) to be offered to stockholders until May, 1958, then to the public. **Price**—\$42 per share. **Proceeds**

—For loans payable to bank, inventory and working capital. **Office**—735 Main Street, Wheeling, W. Va. **Underwriter**—None.

General Telephone Co. of California

Feb. 11 filed \$20,000,000 of first mortgage bonds, series L, due 1988. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—May be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; White, Weld & Co. and Kidder, Peabody & Co. (jointly); Paine, Webber, Jackson & Curtis and Stone & Webster Securities Corp. (jointly); Equitable Securities Corp. **Bids**—Were to have been received up to 8 a.m. (PST) on March 12, but offering has been postponed.

Georgia Power Co. (3/20)

Feb. 21 filed \$24,000,000 first mortgage bonds due March 1, 1988. **Proceeds**—To finance construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey Stuart & Co. Inc.; Morgan Stanley & Co.; Lehman Brothers; The First Boston Corp.; Blyth & Co., Inc.; Kidder, Peabody & Co., and Shields & Co. (jointly); Equitable Securities Corp. and Eastman Dillon, Union Securities & Co. (jointly). **Bids**—Scheduled to be received up to 11 a.m. (EST) on March 20 at office of Southern Services, Inc., Room 1600, 250 Park Avenue, New York 17, N. Y.

Glassheat Corp.

Feb. 12 (letter of notification) 150,000 shares of class A common stock (par 10 cents). **Price**—\$2 per share. **Pro-**

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NEW ISSUE CALENDAR

March 18 (Tuesday)

Carolina Power & Light Co.-----Bonds
(Bids 11 a.m. EST) \$20,000,000
Tennessee Gas Transmission Co.-----Debentures
(Stone & Webster Securities Corp.; White, Weld & Co., Inc.; and Halsey, Stuart & Co. Inc.) \$30,000,000
Tennessee Gas Transmission Co.-----Preferred
(Stone & Webster Securities Corp. and White, Weld & Co.) \$20,000,000

March 19 (Wednesday)

Texas Eastern Transmission Corp.-----Bonds
Dillon, Read & Co., Inc.) \$25,000,000
Willcox & Gibbs Sewing Machine Co.-----Common
(Offering to stockholders—no underwriter) \$182,325

March 20 (Thursday)

Commonwealth Telephone Co.-----Common
(Offering to stockholders—to be underwritten by Eastman Dillon, Union Securities & Co.) 71,200 shares
Georgia Power Co.-----Bonds
(Bids 11 a.m. EST) \$24,000,000
Reichhold Chemicals, Inc.-----Common
(Blyth & Co., Inc.) 200,000 shares

March 21 (Friday)

Bishop Oil Co.-----Common
(Offering to stockholders—underwritten by Hooker & Fay) 112,565 shares

March 24 (Monday)

Florida Power & Light Co.-----Bonds
(Bids 11:30 a.m. EST) \$20,000,000
Merck & Co., Inc.-----Common
(Goldman, Sachs & Co.) 225,000 shares

March 25 (Tuesday)

New Jersey Bell Telephone Co.-----Debentures
(Bids to be invited) \$30,000,000
Stepan Chemical Co.-----Common
(White, Weld & Co.) 203,000 shares

March 26 (Wednesday)

Ocean Drilling & Exploration Co.-----Preferred
(Offering to stockholders—to be underwritten by Morgan Stanley & Co. and Reinholdt & Gardner) \$5,304,950
Richfield Oil Corp.-----Debentures
(Offering to stockholders—to be underwritten by Merrill Lynch, Pierce, Fenner & Smith and Blyth & Co., Inc.) \$50,000,000

March 27 (Thursday)

Baltimore & Ohio RR.-----Equip. Trust Cdfs.
(Bids to be invited) \$3,435,000

March 28 (Friday)

Northwest Bancorporation -----Preferred
(The First Boston Corp. and Blyth & Co., Inc.) \$10,643,000

March 31 (Monday)

American Electronics, Inc.-----Debentures
(Dean Witter & Co.; Van Alstyne, Noel & Co.; and Crowell, Weedon & Co.) \$3,500,000
American Electronics, Inc.-----Common
(Dean Witter & Co.; Van Alstyne, Noel & Co. and Crowell, Weedon & Co.) 80,000 shares
Wisconsin Electric Power Co.-----Bonds
(Bids 11 a.m. EST) \$30,000,000

April 1 (Tuesday)

Idaho Power Co.-----Bonds
(Bids to be invited) \$10,000,000
Idaho Power Co.-----Debentures
(Bids to be invited) \$10,000,000

April 2 (Wednesday)

Brunswick-Balke-Collender Co.-----Debentures
(Offering to stockholders—to be underwritten by Lehman Brothers and Goldman, Sachs & Co.) \$8,593,200
General Amer. Transportation Corp.-----Eq. Tr. Cdfs.
(Kuhn, Loeb & Co.) \$20,000,000
Pacific Petroleum Ltd.-----Debentures
(Eastman Dillon, Union Securities & Co.) \$30,000,000

April 8 (Tuesday)

Citizens & Sou. Natl. Bank of Savannah, Ga.-----Com.
(Offering to stockholders—no underwriting) \$3,000,000

April 9 (Wednesday)

Duquesne Light Co.-----Bonds
(Bids to be invited) \$15,000,000

April 14 (Monday)

New England Telephone & Telegraph Co.-----Debent.
(Bids to be invited) \$45,000,000

April 15 (Tuesday)

Commonwealth Edison Co.-----Bonds
(Bids to be invited) \$50,000,000 to \$60,000,000
New England Electric System-----Common
(Offering to stockholders—bids to be invited) 968,549 shares
Northern Pacific Ry.-----Equip. Trust Cdfs.
(Bids to be invited) about \$7,600,000

April 16 (Wednesday)

Mississippi Power & Light Co.-----Bonds
(Bids 11:30 a.m. EST) \$15,000,000
Sierra Pacific Power Co.-----Common
(Offering to stockholders) 57,362 shares

April 21 (Monday)

Southern Pacific Co.-----Equip. Trust Cdfs.
(Bids to be invited) about \$8,000,000

April 22 (Tuesday)

Consolidated Edison Co. of N. Y. Inc.-----Bonds
(Bids 11 a.m. EST) \$50,000,000

April 23 (Wednesday)

Atlantic City Electric Co.-----Bonds
(Bids to be invited) \$10,000,000 to \$20,000,000
Atlantic City Electric Co.-----Preferred
(Eastman Dillon, Union Securities & Co. and Smith, Barney & Co.) \$5,000,000

Atlantic City Electric Co.-----Common
Eastman Dillon, Union Securities & Co. and Smith Barney & Co.) 120,000 shares

Sierra Pacific Power Co.-----Bonds
(Bids to be invited) \$3,000,000

April 28 (Monday)

Puget Sound Power & Light Co.-----Bonds
(Bids to be invited) \$30,000,000

April 29 (Tuesday)

Philadelphia Electric Co.-----Bonds
(Bids noon EST) \$40,000,000

May 13 (Tuesday)

United Gas Improvement Co.-----Bonds
(Bids to be invited) \$12,000,000

May 19 (Monday)

Gulf States Utilities Co.-----Bonds
(Bids to be invited) \$20,000,000

Gulf States Utilities Co.-----Common
(Bids to be invited) 250,000 shares

May 20 (Tuesday)

Illinois Power Co.-----Bonds
(Bids to be invited) \$25,000,000

May 21 (Wednesday)

Brooklyn Union Gas Co.-----Bonds
(Bids to be invited) \$22,000,000

June 3 (Tuesday)

Appalachian Electric Power Co.-----Bonds
(Bids to be invited) \$25,000,000

June 10 (Tuesday)

Virginia Electric & Power Co.-----Bonds or Debs.
(Bids to be invited) \$25,000,000

June 11 (Wednesday)

New England Power Co.-----Bonds
(Bids to be invited) \$10,000,000

July 1 (Tuesday)

Florida Power Corp.-----Bonds
(Bids to be invited) \$25,000,000

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ceeds—For general corporate purposes. Office—1 E. 35th Street, New York 16, N. Y. Underwriter—James Anthony Securities Corp., 37 Wall St., New York 5, N. Y.

★ Gly Inc.

March 4 (letter of notification) 300,000 shares of common stock (par 30 cents). Price—\$1 per share. Proceeds—To pay balance on oil and gas properties, and unsecured notes and for drilling and working capital. Office—Bacon Bldg., 5th & Pine Sts., Abilene, Texas. Underwriter—Barth Thomas & Co., Inc., New York.

Great Divide Oil Corp.

Oct. 11 (letter of notification) 300,000 shares of common stock (par 10 cents). Price—\$1 per share. Proceeds—To pay balance on oil and gas properties, and unsecured notes and for drilling and working capital. Office—207 Newhouse Bldg., Salt Lake City, Utah. Underwriter—Birkenmayer & Co., Denver, Colo.

Guardian Insurance Corp., Baltimore, Md.

Aug. 16 filed 300,000 shares of common stock, of which 200,000 shares are to be publicly offered and the remaining 100,000 shares reserved for issuance upon exercise of warrants which are to be sold at 25 cents per warrant to organizers, incorporators, management, and/or directors. Price—\$10 per share. Proceeds—For working capital and general corporate purposes. Underwriter—None.

Hawaiian Airlines Ltd., Honolulu, Hawaii

Feb. 18 filed \$1,250,000 of convertible subordinated debentures due April 1, 1973, of which \$1,000,000 principal amount will be offered for subscription by stockholders at the rate of 100 of debentures for each 35 shares held; \$100,000 of debentures will be offered to employees; and \$150,000 to others. Price—At principal amount. Proceeds—To be used to buy new airplanes, to repay certain short-term bank loans, and for other corporate purposes. Underwriter—None.

Hofmann Industries, Inc., Sinking Spring, Pa.

Dec. 20 filed 227,500 shares of common stock (par 25 cents) to be offered in exchange for outstanding common shares of Van Dorn Iron Works Co. Underwriter—None.

Home Owners Life Insurance Co.

Nov. 1 filed 50,000 shares of class A common stock to be offered to the public at \$5 per share and 116,366 shares of class B common stock to be offered to stockholders at \$6 per share at the rate of two new shares for each five shares held. Proceeds—For working capital. Office—Fort Lauderdale, Fla. Underwriter—None.

Horlac Mines, Ltd.

Nov. 20 (letter of notification) 300,000 shares of common stock. Price—At par (\$1 per share). Proceeds—To repay loan, to purchase equipment and machinery and for working capital. Office—1551-A Eglinton Ave. West, Toronto 10, Ont., Canada. Underwriter—D'Amico & Co., Inc., Buffalo, N. Y.

★ Idaho Power Co., Boise, Idaho (4/1)

March 6 filed \$10,000,000 of first mortgage bonds, due April 1, 1988, and \$10,000,000 of sinking fund debentures due April 1, 1983. Proceeds—To repay bank loans. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Blyth & Co., Inc. and Lazard Freres & Co. (jointly); Kidder, Peabody & Co. and White, Weld & Co. (jointly); Salomon Bros. & Hutzler and Eastman Dillon, Union Securities & Co. (jointly); Merrill Lynch, Pierce, Fenner & Smith; Equitable Securities Corp. Bids—Expected to be received on April 1.

Industro Transistor Corp., (N. Y.)

Feb. 28 filed 150,000 shares of common stock (par 10 cents). Price—To be related to the market price. Proceeds—For working capital and to enlarge research and development department. Underwriter—S. D. Fuller & Co., New York. Offering—Expected early in April.

★ Institutional Income Fund, Inc., New York

March 5 filed (by amendment) 800,000 additional shares of common stock (par one cent). Price—At market. Proceeds—For investment.

★ Institutional Shares, Ltd., New York

March 5 filed 100 shares each of four different series of securities. Price—At market. Proceeds—For investment.

★ Iron Fireman Manufacturing Co., Portland, Ore.

March 10 filed voting trust certificates for 378,000 shares of common stock.

Janaf, Inc., Washington, D. C.

July 30 filed \$10,000,000 of 5½-8% sinking fund debentures due Aug. 1, 1972 and 100,000 shares of common stock (par 20 cents) to be offered in units of a \$1,000 debenture and 10 shares of stock, or a \$100 debenture and one share of stock. Price—Par for debenture, plus \$2 per share for each 10 shares of stock. Proceeds—For construction of a shopping center and other capital improvements; for retirement of present preferred shares; and for working capital, etc. Underwriter—None.

Kaar Engineering Corp.

Feb. 12 (letter of notification) \$250,000 of 6½% convertible 15-year sinking fund debentures, due Jan. 1, 1973, to be offered for subscription by preferred stockholders at the rate of \$3 of debentures for each preferred share (par \$10) held. Price—At par (in denominations of \$1,000 and \$500), plus accrued interest from Jan. 1, 1958. Office—2995 Middlefield Road, Palo Alto, Calif. Underwriter—None.

Keystone Beryllium Corp.

Feb. 14 (letter of notification) 270,700 shares of common stock. Price—At par (\$1 per share). Proceeds—For mining expenses. Office—Suite 525, University Building, Denver 2, Colo. Underwriter—Mountain States Securities Corp., Denver, Colo.

Lefcourt Realty Corp., New York

Jan. 29 filed 250,000 shares of common stock (par 25 cents). Price—To be supplied by amendment. Proceeds—For development of property in Florida. Underwriter—Frank M. Cryan Co., Inc., New York.

Lorain Telephone Co., Lorain, Ohio

Dec. 13 (letter of notification) 1,785 shares of common stock (no par) being offered for subscription by common stockholders at the rate of one new share for each 62.52 shares held as of Feb. 25, 1958; rights to expire on May 1, 1958. Price—\$28 per share. Proceeds—For additions and improvements. Office—203 West 9th St., Lorain, Ohio. Underwriter—None.

Los Angeles Airways, Inc.

Feb. 20 (letter of notification) 1,923 shares of common stock (par \$10). Price—\$52 per share. Proceeds—To go to selling stockholders. Office—5901 Imperial Highway, Los Angeles 45, Calif. Underwriter—Dean Witter & Co., Los Angeles 14, Calif.

★ Merck & Co., Inc. (3/24-25)

March 5 filed 225,000 shares of common stock (par 16½ cents). Price—To be supplied by amendment. Proceeds—To selling stockholder. Underwriter—Goldman, Sachs & Co., New York.

★ Merrimack-Essex Electric Co.

Feb. 11 filed \$20,000,000 of first mortgage bonds, series C, due 1988. Proceeds—Together with other funds, to redeem a like amount of 5½% series B bonds due 1987. Underwriter—To be determined by competitive bidding. Probable bidders: Kidder, Peabody & Co. and White, Weld & Co. (jointly); Halsey, Stuart & Co. Inc.; First Boston Corp.; Merrill Lynch, Pierce, Fenner & Smith, and Eastman Dillon Union Securities & Co. (jointly). Bids—Which were to have been received on March 10 at 441 Stuart St., Boston 16, Mass., have been indefinitely postponed.

Mineral Basin Mining Corp.

Dec. 30 (letter of notification) 200,000 shares of common stock. Price—At par (\$1 par value). Proceeds—For mining expenses. Office—1710 Hoge Bldg., Seattle 4, Wash. Underwriter—None.

★ Minnesota Development Corp.

Jan. 30 filed 20,000 shares of capital stock (no par). Price—\$50 per share. Proceeds—For general corporate purposes. Underwriter—None. Walter M. Ringer, Sr., of Minneapolis, Minn., is President. Statement effective Feb. 28.

★ Mississippi Power & Light Co. (4/16)

March 5 filed \$15,000,000 of first mortgage bonds due 1988. Proceeds—For property additions and improvements, to pay off bank loans, and other corporate purposes. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Kuhn, Loeb & Co.; Equitable Securities Corp. and Shields & Co. (jointly); Blyth & Co., Inc.; Merrill Lynch, Pierce, Fenner & Smith, Eastman Dillon, Union Securities & Co., White, Weld & Co. and Kidder, Peabody & Co. (jointly); The First Boston Corp. Bids—Tentatively expected to be received up to 11:30 a.m. (EST) on April 16.

★ Montgomery (William) Co.

March 5 (letter of notification) 22,000 shares of 6% preferred stock to be sold to retail dealers, suppliers, and employees of issuer. Price—At par (\$10 per share). Proceeds—For future inventory. Office—King of Prussia, Pa. Underwriter—None.

Motel Co. of Roanoke, Inc., Roanoke, Va.

Nov. 18 (letter of notification) 60,000 shares of common stock (par 40 cents). Price—\$5 per share. Proceeds—For purchase of land, construction and working capital. Underwriter—Southeastern Securities Corp., New York.

Motel Corp. of Italy

Jan. 14 filed 20,000 shares of class A common stock and 10,000 shares of 7% cumulative convertible preferred, to be sold publicly at a unit price of \$101, representing one share of preferred and two shares of common. Proceeds—To be invested in the stock of Motels Americano, an Italian organization. Office—Silver Springs, Maryland. Underwriter—None.

Multnomah Canadian Fund, Ltd., Vancouver, B. C.

Jan. 31 filed 1,000,000 shares of class A common stock (par \$1). Price—At market. Proceeds—For investment. Business—Investment company, with Spencer R. Collins of Eugene, Ore., as President.

Municipal Investment Trust Fund, Inc. (N. Y.)

May 9 filed 5,000 units of undivided interests in Municipal Investment Trust Fund, Series A. Price—At market. Proceeds—For investment. Sponsor—Ira Haupt & Co., New York.

★ Mutual Trust, Kansas City, Mo.

March 10 filed (by amendment) an additional \$5,000,000 of periodic purchase plans for accumulation of shares of beneficial interest in the Trust. Proceeds—For investment. Distributor—Mutual Distributors, Inc., Kansas City, Mo.

★ National Beverages Inc.

Feb. 25 (letter of notification) 90,000 shares of common stock (par \$1). Price—\$2.50 per share. Proceeds—For working capital, expansion and equipment. Office—1030 S. 6th W., Salt Lake City, Utah. Underwriter—None.

Natural Gas Pipeline Co. of America

Nov. 19 filed \$40,000,000 of first mortgage pipeline bonds due 1977. Price—To be supplied by amendment. Proceeds—To reduce bank loans. Underwriters—Dillon, Read & Co. Inc. and Halsey, Stuart & Co. Inc., both of New York. Offering—Temporarily postponed.

Nebraska Consolidated Mills Co.

Feb. 6 (letter of notification) 25,000 shares of common stock to be offered to stockholders at the rate of one new share for each 16 shares held. Rights will expire March 15, 1958. Price—At par (\$10 per share). Proceeds—For working capital. Office—1521 North 16th St., Omaha 10, Neb. Underwriter—None.

New Jersey Bell Telephone Co. (3/25)

Feb. 28 filed \$30,000,000 of 35 year debentures due April 1, 1993. Proceeds—To redeem a like amount of 4½% debentures due 1993 on or about April 28. Underwriter—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co., Inc.; White, Weld & Co. and Shields & Co. (jointly); Morgan Stanley & Co.; The First Boston Corp. Bids—Tentatively expected to be received up to 11 a.m. (EST) on March 25.

Nichols, Inc., Exeter, N. H.

Nov. 14 filed 25,000 shares of common stock (no par). Price—\$27 per share. Proceeds—To repay short term bank loans and for working capital. Business—Sells hatching eggs and day-old chicks. Underwriter—None. George E. Coleman, Jr., is President.

Nortex Associates Inc., Dallas, Texas

Feb. 17 filed \$2,000,000 of participating interests in 1958 oil and gas exploration program. Interests are to be offered for public sale in \$10,000 units. Proceeds—For exploration and development of gas and oil properties. Underwriter—None.

★ Northwest Bancorporation (3/28)

March 6 filed 106,430 shares of new convertible preferred stock (par \$100) to be offered for subscription by common stockholders of record on March 27, 1958, at the rate of one preferred share for each 16 common shares held; rights to expire on April 14. Proceeds—Approximately \$7,000,000 to be invested in three major affiliates and the balance for working capital and other corporate purposes. Underwriters—The First Boston Corp. and Blyth & Co., Inc., both of New York.

★ Northwest Refining & Chemical Co.

Feb. 28 (letter of notification) 200,000 shares of common stock (par two cents). Price—25 cents per share. Proceeds—To purchase raw materials. Office—125 N. Park Road, Spokane, Wash. Underwriter—None.

Nuclear Science & Engineering Corp.

Sept. 20 filed 100,000 shares of common stock (par 25 cents). Price—To be supplied by amendment. Proceeds—To prepay indebtedness to Norden-Ketay Corp., to purchase additional equipment and for working capital. Underwriter—Hayden, Stone & Co., New York. Offering—Temporarily postponed because of market conditions.

★ Oakcrest Country Club Inc.

March 5 (letter of notification) \$30,000 principal amount of 10-year 5% debentures (in denominations of \$50 each). Proceeds—To defray cost of installing capital improvements. Office—6100 Marlboro Pike, Prince George County, Md. Underwriter—None.

★ Ocean Drilling & Exploration Co.,

New Orleans, La. (3/26)

March 6 filed 106,099 shares of cumulative preferred stock (par \$50) to be offered for subscription by common stockholders of record March 25, 1958, at the rate of one preferred share for each 14 common shares held; rights to expire April 9. Price—To be supplied by amendment. Proceeds—To repay bank loans, construction of a new drilling barge, and for other general corporate purposes. Underwriters—Morgan Stanley & Co., New York and Reinholdt & Gardner, St. Louis, Mo.

Oil & Mineral Operations, Inc.

Nov. 4 (letter of notification) 100,000 shares of common stock (par \$1). Price—\$2.50 per share. Proceeds—For development of oil and mineral properties. Office—208 Wright Bldg., Tulsa, Okla. Underwriter—Universal Securities Co., 201 Enterprise Bldg., Tulsa 3, Okla.

★ O. T. C. Enterprises Inc.

March 6 (letter of notification) 23,200 shares of common class B stock (par \$1). Price—\$5 per share. Proceeds—For completion of plant plans; land; construction and operating expenses. Office—2502 N. Calvert St., Baltimore 18, Md. Underwriter—Burnett & Co., Sparks, Md.

★ Pacific Petroleum Ltd., Calgary, Canada (4/2)

March 12 filed \$30,000,000 of 15-year sinking fund debentures due 1973. Price—To be supplied by amendment. Proceeds—For repayment of bank loans and for general corporate purposes. Underwriter—Eastman Dillon, Union Securities & Co., New York.

Parnat Business Machines Corp.

Feb. 25 (letter of notification) 60,000 shares of common stock (par \$1). Price—\$5 per share. Proceeds—For working capital. Office—1816 Boston Rd., Bronx, N. Y. Underwriter—Darius Inc., New York.

★ Penn Square Mutual Fund, Reading, Pa.

March 5 filed 100,000 shares of beneficial interest. Price—At market. Proceeds—For investment. Underwriter—J. L. Hain & Co., Reading, Pa.

★ Peoples Security Investment Co.

Oct. 28 filed 1,000,000 preorganization subscriptions to class A voting common stock and 250,000 preorganization subscriptions to class B non-voting common stock to be offered in units of four class A shares and one class B share, the purchaser agreeing to donate each class B share to the Peoples Security Foundation for Christian Education, to be incorporated as a non-profit corporation. Price—\$2 per share. Proceeds—For capital and surplus to finance a proposed insurance company to be named Peoples Security & Endowment Co. of America. Office—Montgomery, Ala. Underwriter—None. T. J. Patterson is President. Statement effective Feb. 27.

Pleasant Valley Oil & Mining Corp.

Sept. 30 (letter of notification) 2,000,000 shares of common stock. **Price**—At par (five cents per share). **Proceeds**—For geological studies, reserve for contingent liability, for machinery and equipment and other reserves. **Office**—616 Judge Bldg., Salt Lake City, Utah. **Underwriter**—Steven Randall & Co., Inc., New York.

Prairie Fibreboard Ltd.

Feb. 28 filed 210,000 shares of common stock (par \$1.50) to be offered for sale to residents of Canada in the Provinces of Manitoba, Saskatchewan and Alberta and to residents of the United States "only in the State of North Dakota." **Price**—\$2.50 per share. **Proceeds**—For construction purpose. **Office**—Saskatoon, Saskatchewan, Canada. **Underwriter**—Allied Securities Ltd., Saskatoon, Canada.

Premier Pharmaceutical Corp., Buffalo, N. Y.

Jan. 29 filed 100,000 shares of 6% preferred stock (par \$10) and 100,000 shares of common stock (par \$1) to be offered in units of one share of each class of stock. **Price**—\$11 per unit. **Proceeds**—To build or lease plant, for new equipment and for working capital and other corporate purposes. **Underwriter**—Girard Securities, Inc., Buffalo, N. Y.

Professional Life & Casualty Co., Champaign, Ill.

Dec. 16 filed 120,000 shares of common stock. **Price**—\$15 per share. **Proceeds**—To increase capital and surplus. **Underwriter**—None.

Public Savings Life Insurance Co.

Nov. 29 filed 113,000 shares of common stock (par 50 cents). **Price**—To be supplied by amendment. **Proceeds**—To Public Savings Insurance Co., the selling stockholder. **Office**—Charleston, S. C. **Underwriter**—None.

Reichhold Chemicals, Inc. (3/20)

Oct. 10 filed 200,000 shares of common stock (par \$1). **Price**—To be supplied by amendment. **Proceeds**—For expansion program and working capital. **Underwriter**—Blyth & Co., Inc., New York.

Resolute Corp., Zelienople, Pa.

March 4 (letter of notification) 20,000 shares of common stock (no par) to be offered pro-rata to stockholders, then to the public. **Price**—\$7.50 per share. **Proceeds**—To pay notes payable and bank loans and for working capital. **Underwriter**—None.

Richfield Oil Corp. (3-26)

March 6 filed \$50,000,000 of convertible subordinated debentures, due April 15, 1983, to be offered for subscription by common stockholders of record March 25, 1958 at the rate of \$100 principal amount of debentures for each eight shares held; rights to expire on April 14. **Price**—100% of principal amount. **Proceeds**—For capital expenditures and other corporate purposes. **Underwriters**—Merrill Lynch, Pierce, Fenner & Smith and Blyth & Co., Inc., both of New York.

Rocky Mountain Quarter Racing Association

Oct. 31 (letter of notification) 300,000 shares of common stock. **Price**—At par (\$1 per share). **Proceeds**—To repay outstanding indebtedness. **Office**—Littleton, Colo. **Underwriter**—R. B. Ford Co., Windover Road, Memphis, Tenn.

Schering Corp., Bloomfield, N. J.

Sept. 19 filed 278,983 shares of 5% cumulative convertible preferred stock (par \$30) and 418,475 shares of common stock (par \$1) to be issued in exchange for stock of White Laboratories, Inc. (which is to be merged with Schering Corp. effective Sept. 19, 1957) on the basis of one share of preferred stock and 1½ shares of common stock for each White class A or class B common share held. **Underwriter**—None.

Sentinel Security Life Insurance Co.

Nov. 27 filed 5,000 shares of common stock (par \$10). **Price**—To be supplied by amendment. **Proceeds**—For working capital. **Office**—Salt Lake City, Utah. **Underwriter**—None.

Sheraton Properties, Inc., Boston, Mass.

Dec. 30 filed \$990,000 of first mortgage sinking fund bonds due Dec. 1, 1973. **Price**—At par. **Proceeds**—To repay indebtedness. **Underwriter**—Sheraton Securities Corp., a subsidiary.

Simplicity Pattern Co. Inc.

Oct. 10 filed 155,000 shares of common stock (par \$1). **Price**—To be supplied by amendment. **Proceeds**—To two selling stockholders. **Underwriter**—Merrill Lynch, Pierce, Fenner & Smith, New York. **Offering**—Indefinitely postponed.

Southern Electric Steel Co.

Dec. 23 (letter of notification) \$300,000 of 6% second mortgage serial bonds (with common stock purchase warrants). **Price**—At par (in denominations of \$1,000 each). **Proceeds**—For payment of demand notes payable and working capital. **Office**—2301 Huntsville Road, Birmingham, Ala. **Underwriter**—None.

Sovereign Resources, Inc.

Nov. 19 (letter of notification) 1,500 shares of 7% cumulative preferred stock. **Price**—At par (\$100 per share). **Proceeds**—For construction, payment of promissory note and working capital. **Office**—3309 Winthrop St., Fort Worth, Tex. **Underwriter**—Reilly, Hoffman & Sweeney, Inc., New York, N. Y. **Offering**—Delayed.

Stepan Chemical Co., Chicago, Ill. (3/25)

Feb. 27 filed 253,000 shares of common stock (par \$1), of which 203,000 shares are to be offered publicly. **Price**—To be supplied by amendment. **Proceeds**—To selling stockholders. **Underwriter**—White, Weld & Co., New York.

Symington-Gould Corp., Depew, N. Y.

Feb. 28 filed 593,939 shares of common stock and 263,973 warrants to be issued in exchange for the stock of the Wayne Pump Co. under merger agreement which provides for conversion of each share of capital stock of

Wayne Pump into (1) 2¼ shares of common stock of the surviving corporation to be known as Symington Wayne Corp., and (2) an option to purchase an additional share at prices commencing at \$10 per share. **Underwriter**—None.

Tax Exempt Bond Fund, Inc., Washington, D. C.

June 20 filed 40,000 shares of common stock. **Price**—\$25 per share. **Proceeds**—For investment. **Underwriter**—Equitable Securities Corp., Nashville, Tenn. **Offering**—Held up pending passing of necessary legislation by Congress.

Tennessee Gas Transmission Co. (3/18)

Feb. 26 filed \$30,000,000 of debentures due May 1, 1978. **Price**—To be supplied by amendment. **Proceeds**—To repay bank loans and for construction. **Underwriters**—Stone & Webster Securities Corp., White, Weld & Co. and Halsey, Stuart & Co., Inc., all of New York.

Tennessee Gas Transmission Co. (3/18)

Feb. 26 filed 200,000 shares of cumulative convertible second preferred stock (par \$100). **Price**—To be supplied by amendment. **Proceeds**—To repay bank loans and for construction. **Underwriters**—Stone & Webster Securities Corp. and White, Weld & Co., both of New York.

Texas Eastern Transmission Corp. (3/19)

Feb. 27 filed \$25,000,000 first mortgage pipe line bonds due 1978. **Price**—To be supplied by amendment. **Office**—Shreveport, La. **Proceeds**—To repay short-term note indebtedness and for new construction. **Underwriter**—Dillon, Read & Co. Inc., New York.

Tourist Industry Development Corp. Ltd.

Jan. 14 filed \$2,250,000 7% perpetual subordinated debentures (4% fixed interest and 3% of earned), to be sold at par in denominations of \$1,000 and multiples thereof. **Proceeds**—To acquire mortgages or other liens on real estate, also for loans to or invested in hotels, resorts or inland transport. **Office**—Jerusalem, Israel. **Underwriter**—None.

Trans-America Uranium Mining Corp.

Nov. 6 filed 3,000,000 shares of common stock (par one mill). **Price**—25 cents per share. **Proceeds**—For land acquisition, exploratory work, working capital, reserves and other corporate purposes. **Underwriter**—None. Alfred E. Owens of Waterloo, Ia., is President.

Trans-Eastern Petroleum Inc.

Feb. 27 (letter of notification) 7,500 shares of common stock (par \$1) to be offered pro-rata to stockholders on the basis of one new share for 10 shares owned. **Price**—\$4 per share. **Proceeds**—For drilling for oil and gas. **Office**—203 N. Main Street, Coudersport, Pa. **Underwriter**—None.

Trask Manufacturing Co.

Dec. 5 (letter of notification) 15,000 shares of common stock (par \$5). **Price**—\$4.50 per share. **Proceeds**—For working capital and payment of current liabilities. **Address**—Wrightsboro section, 3 miles north of Wilmington, N. C. **Underwriter**—Selected Investments, Wilmington, N. C.

Travelers Oil & Uranium Co., Inc.

March 6 (letter of notification) 235,000 shares of common stock. **Price**—At par (\$1 per share). **Proceeds**—For the development of oil and gas properties and mining expenses. **Office**—Room 312, First National Bank Bldg., Reno, Nev. **Underwriter**—None.

Ulrich Manufacturing Co.

Sept. 24 filed \$600,000 of 6% sinking fund debentures and 30,000 shares of class A common stock (par \$1) to be offered in units of \$500 of debentures and 25 shares of stock. **Price**—To be supplied by amendment. **Proceeds**—To reduce bank loans, to repay all or part of an outstanding 5% term loan and/or provide additional working capital. **Office**—Roanoke, Ill. **Underwriter**—White & Co., St. Louis, Mo., on a best-efforts basis.

United States Sulphur Corp.

Oct. 8 filed 1,500,000 shares of common stock (par one cent). **Price**—\$1 per share. **Proceeds**—For plant rental etc.; to retire corporate notes; for core drilling; for working capital; and for other exploration and development work. **Office**—Houston, Texas. **Underwriter**—None.

United States Telemail Service, Inc.

Feb. 17 filed 375,000 shares of common stock (par \$1). **Price**—\$4 per share. **Proceeds**—To purchase equipment and supplies and for working capital and other corporate purposes. **Office**—Salt Lake City, Utah. **Underwriter**—Amos Treat & Co., Inc., of New York.

Universal-Cyclops Steel Corp.

Feb. 10 filed 600,153 shares of common stock (par \$1). **Price**—To be supplied by amendment. **Proceeds**—To selling stockholders who are to receive said shares in exchange for their holdings of Empire Steel Corp. and Reeves Steel & Mfg. Co. common stock on the basis of 8.68 shares Universal for each Empire share and 5.51 shares Universal for each Reeves share. **Underwriter**—None. Statement effective Feb. 28.

Uranium Corp. of America, Portland, Ore.

April 30 filed 1,250,000 shares of common stock (par 10 cents). **Price**—To be supplied by amendment (expected to be \$1 per share). **Proceeds**—For exploration purposes. **Underwriter**—To be named by amendment. **Graham Albert Griswold of Portland, Ore., is President.**

Valley Farms, Inc., Denver, Colo.

Feb. 26 filed 32,000 shares each of class A, class B and class C preferred stock (par \$25), and 32,000 shares of common stock (no par) to be offered in units of one share each of class A, B and C preferred and one share of common. **Price**—\$100 per unit. **Proceeds**—To repay loan on real estate and for farm operating capital. **Underwriter**—Entro Corp., 812 Equitable Bldg., Denver 2, Colo., on a best-efforts basis.

Washington National Development Corp.

Oct. 2 (letter of notification) 50,000 shares of common stock (par \$1) of which 34,280 shares are to be offered publicly at \$1.20 per share and 15,720 shares are to be offered to certain individuals under options. **Proceeds**—For general corporate purposes. **Office**—3612 Quesada St., N. W., Washington, D. C. **Underwriter**—Wagner & Co., New York City.

West Coast Airlines, Inc., Seattle, Wash.

Feb. 12 filed \$600,000 of 6% subordinated debentures, due 1970, and 150,000 shares of common stock (par \$1) to be offered for subscription by common stockholders of record March 1, 1958, in units of \$100 principal amount of debentures and 25 common shares, at rate of one unit for each 31 common shares held on the record date. **Price**—\$125 per unit. **Proceeds**—To finance the acquisition of six new Fairchild F-27 "Friendship" aircraft on order for delivery during 1958, and related costs. **Underwriter**—None.

Western Copperada Mining Corp. (Canada)

Aug. 30 (letter of notification) 300,000 shares of common stock. **Price**—At par (\$1 per share). **Proceeds**—For development and exploratory work, drilling costs and survey, and for working capital. **Office**—1205 Phillips Square, Montreal, Canada. **Underwriter**—Jean R. Védits Co., Inc., New York.

Willcox & Gibbs Sewing Machine Co. (3/19)

March 3 (letter of notification) 25,500 shares of common stock (par \$5) to be offered for subscription by common stockholders of record March 17 on basis of one new share for each 10 shares held; rights to expire on April 7. **Price**—\$7.15 per share. **Proceeds**—For general corporate purposes. **Office**—214 W. 39th St., New York, N. Y. **Underwriter**—None.

Wisconsin Electric Power Co., Milwaukee (3/31)

March 3 filed \$30,000,000 of first mortgage bonds, series due 1988. **Proceeds**—For corporate purposes and construction. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; Glore, Forgan & Co., Eastman Dillon, Union Securities & Co. and Harriman Ripley & Co. Inc. (jointly); Merrill Lynch, Pierce, Fenner & Smith and Equitable Securities Corp. (jointly); Lehman Brothers and Salomon Bros. & Hutzler (jointly). **Bids**—Expected to be received up to 11 a.m. (EST) on Mar. 31.

Worldmark Press, Inc.

Dec. 20 (letter of notification) 150,000 shares of common stock (par 10 cents). **Price**—\$2 per share. **Proceeds**—For working capital and general corporate purposes. **Office**—207 East 43rd Street, New York, N. Y. **Underwriter**—J. A. Winston & Co., Inc., New York.

Worth Fund, Inc., New York

Feb. 21 filed 400,000 shares of common stock. **Price**—\$12.50 per share. **Proceeds**—For investment. **Underwriter**—Cherokee Securities Corp., 118 N. W. Broad St., Southern Pines, S. C.

Young (Donald W.) & Son, Inc.

Nov. 14 (letter of notification) \$75,000 of 10-year 6% debentures due Oct. 1, 1967, with common stock warrants to purchase 7,500 shares of 10-cent par common stock at \$1 per share. **Price**—\$100 per unit of a \$100 debenture and one warrant. **Proceeds**—To repay short term debt and for working capital. **Office**—Stockholm, N. Y. **Underwriter**—Sherry, Maloney & Co., Inc., New York. Letter being withdrawn.

Prospective Offerings

American Can Co.

March 10 William C. Stolk, President, announced that the directors have approved a public offering of \$80,000,000 long term debentures. **Proceeds**—To redeem \$40,000,000 of outstanding debt and for working capital. **Underwriters**—Morgan Stanley & Co. and Clark Dodge & Co., both of New York. **Registration**—Expected in near future.

Appalachian Electric Power Co. (6/3)

Dec. 2, 1957, it was reported this company, a subsidiary of American Gas & Electric Co., plans to issue and sell \$25,000,000 of first mortgage bonds. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; Kuhn, Loeb & Co. and Eastman Dillon, Union Securities & Co. (jointly); Harriman Ripley & Co. Inc. **Bids**—Tentatively expected to be received on June 3.

Associates Investment Co.

Jan. 23 it was reported company plans to issue and sell some additional debentures (amount not yet determined). **Underwriters**—Salomon Bros. & Hutzler and Lehman Brothers, both of New York. **Offering**—Expected before July 1.

Atlantic City Electric Co. (4/23)

Feb. 28 it was reported company plans to issue and sell 50,000 shares of preferred stock (par \$100) and 120,000 shares of common stock. **Underwriters**—May be Eastman Dillon, Union Securities & Co. and Smith, Barney & Co., both of New York. **Registration**—Planned for March 19.

Atlantic City Electric Co. (4/23)

Feb. 28 it was reported company plans to issue and sell \$10,000,000 to \$20,000,000 of first mortgage bonds due 1988. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Eastman Dillon, Union Securities & Co. and Smith, Barney & Co. (jointly); Blyth & Co., Inc.; The First

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Boston Corp. and Drexel & Co. (jointly); White, Weld & Co. and Shields & Co. (jointly). **Bids**—Expected April 23. **Registration**—Planned for March 19.

★ **Baltimore & Ohio RR. (3/27)**

Bids are expected to be received by the company on March 27 for the purchase from it of \$3,435,000 equipment trust certificates. Probable bidders: Halsey, Stuart & Co. Inc.; Salomon Bros. & Hutzler.

★ **Boston Edison Co.**

Jan. 27 it was reported company may issue and sell in the second or third quarter of this year some additional first mortgage bonds and preferred stock. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by company, with prospective bidders including Halsey, Stuart & Co. Inc.; The First Boston Corp.; White, Weld & Co.; Lehman Brothers and Harriman Ripley & Co. Inc. (jointly). For preferred stock, The First Boston Corp., New York.

★ **Brooklyn Union Gas Co. (5/21)**

Nov. 25, 1957, it was announced that company expects to issue and sell \$22,000,000 of first mortgage bonds due 1983. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Lehman Brothers; Blyth & Co., Inc., and F. S. Moseley & Co. (jointly); Merrill Lynch, Pierce, Fenner & Smith; Harriman Ripley & Co. Inc. and The First Boston Corp. (jointly); White, Weld & Co. **Bids**—Expected May 21.

★ **California Electric Power Co.**

March 10 it was reported company may issue and sell in 1958 about 450,000 additional shares of common stock. **Underwriter**—To be determined by competitive bidding. Probable bidders: White, Weld & Co.; Kidder, Peabody & Co.; Merrill Lynch, Pierce, Fenner & Smith; Carl M. Loeb, Rhoades & Co., and Bear Stearns & Co. (jointly).

★ **Central Hudson Gas & Electric Corp.**

Jan. 22 it was reported company plans to issue and sell \$18,000,000 of first mortgage bonds (previous bond financing done privately). **Underwriter**—If sold at competitive bidding, probable bidders may include: Halsey, Stuart & Co. Inc.; Eastman Dillon, Union Securities & Co.; The First Boston Corp.; White, Weld & Co. and Stone & Webster Securities Corp. (jointly); Kidder, Peabody & Co. **Bids**—Tentatively scheduled to be received about the middle of May.

★ **Central Illinois Light Co.**

Jan. 22 it was announced stockholders will vote March 27 on increasing the authorized preferred stock (par \$100) from 250,000 shares to 500,000 shares. **Underwriter**—Eastman Dillon, Union Securities & Co., New York.

★ **Chicago District Pipeline Co.**

Nov. 12, 1957, it was announced company plans to sell about \$5,000,000 of first mortgage bonds sometime after the turn of the year. **Proceeds**—To repay advances made by Peoples Gas Light & Coke Co., the parent. **Underwriters**—Probably Dillon, Read & Co. Inc. and Halsey, Stuart & Co. Inc.

★ **Citizens & Southern National Bank of Savannah, Ga. (4/8)**

March 11 it was announced stockholders of record April 8, 1958 are to be given the right to subscribe for 100,000 additional shares of capital stock at the rate of one new share for each 10 shares held. **Price**—\$30 per share. **Proceeds**—To increase capital and surplus. **Underwriter**—None.

★ **Columbus & Southern Ohio Electric Co.**

Dec. 9 it was reported company plans to issue and sell about 250,000 additional shares of common stock. **Underwriters**—Dillon, Read & Co. Inc. and The Ohio Co. (jointly). Permanent financing not expected until late in 1958 or possibly early in 1959.

★ **Commonwealth Edison Co. (4/15)**

Feb. 17 it was announced company plans to issue and sell \$50,000,000 to \$60,000,000 of mortgage bonds. **Proceeds**—For construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; Glore, Forgan & Co. **Bids**—Expected to be received on April 15. **Registration**—To be filed about the middle of March.

★ **Consolidated Natural Gas Co.**

Feb. 25 it was announced company plans to issue and sell \$45,000,000 of sinking fund debentures. **Underwriters**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co.; White, Weld & Co. and Paine, Webber, Jackson & Curtis (jointly); Morgan Stanley & Co. and First Boston Corp. (jointly). **Offering**—Expected in second quarter of 1958.

★ **Delaware Power & Light Co.**

Jan. 22 it was reported company plans to issue and sell \$10,000,000 of first mortgage bonds due 1988. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; White, Weld & Co. and Shields & Co. (jointly); Eastman Dillon, Union Securities & Co.; The First Boston Corp. and Blyth & Co., Inc. (jointly); Merrill Lynch, Pierce, Fenner & Smith and Kidder, Peabody & Co. (jointly). **Offering**—Expected in June.

★ **Dixon Chemical Industries, Inc.**

March 10 it was reported company plans to do some financing, the type of securities to be announced later. **Proceeds**—For expansion. **Underwriter**—Harriman Ripley & Co. Inc., New York.

★ **Edmonton (City of), Alberta, Canada**

March 3 it was reported early registration is expected of an issue of \$20,000,000 debentures. **Underwriters**—

The First Boston Corp. and Dominion Securities Corp., both of New York. **Offering**—Expected early in April.

★ **Florida Power Corp. (7/1)**

Jan. 29 it was reported corporation plans to issue and sell \$25,000,000 of first mortgage bonds due 1988. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Kidder, Peabody & Co. and Merrill Lynch, Pierce, Fenner & Smith (jointly); Lehman Brothers and Blyth & Co., Inc. (jointly); Eastman Dillon, Union Securities & Co., and Harriman Ripley & Co. Inc. (jointly); The First Boston Corp. **Bids**—Expected to be received on July 1.

★ **General American Transportation Corp. (4/2)**

March 12 it was announced company plans to sell \$20,000,000 of equipment trust certificates. **Underwriter**—Kuhn, Loeb & Co., New York. **Offering**—Tentatively expected late in March. **Registration**—Expected today (March 13.)

★ **Great Atlantic & Pacific Tea Co.**

Feb. 19 it was reported a secondary offering of common voting stock is expected within a month. **Underwriters**—May include: Blyth & Co., Inc.; Carl M. Loeb, Rhoades & Co.; Hemphill, Noyes & Co.; Smith, Barney & Co.; and Merrill Lynch, Pierce, Fenner & Smith.

★ **Gulf States Utilities Co. (5/19)**

Jan. 29 it was reported company plans to issue and sell \$20,000,000 of first mortgage bonds. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Merrill Lynch, Pierce, Fenner & Smith and White, Weld & Co. (jointly); Salomon Bros. & Hutzler and Eastman Dillon, Union Securities & Co. (jointly); Lehman Brothers; Stone & Webster Securities Corp.; Kuhn, Loeb & Co. **Bids**—Expected to be received on May 19.

★ **Gulf States Utilities Co. (5/19)**

Jan. 29 it was reported company plans to issue and sell 250,000 shares of common stock. **Underwriter**—To be determined by competitive bidding. Probable bidders: Merrill Lynch, Pierce, Fenner & Smith and Lehman Brothers (jointly); Stone & Webster Securities Corp. **Bids**—Tentatively expected to be received on May 19.

★ **Illinois Power Co. (5/20)**

Jan. 29 it was reported company plans to issue \$25,000,000 of first mortgage bonds. **Proceeds**—For construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Eastman Dillon, Union Securities & Co.; White, Weld & Co. and Merrill Lynch, Pierce, Fenner & Smith (jointly); The First Boston Corp.; Harriman Ripley & Co. Inc. **Bids**—To be received on May 20.

★ **Kansas Power & Light Co.**

Feb. 14 it was announced company plans to issue and sell \$10,000,000 of first mortgage bonds due 1988. **Proceeds**—For construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; Glore, Forgan & Co.; Harriman Ripley & Co. Inc.; White, Weld & Co.; Blyth & Co., Inc.; Equitable Securities Corp. **Registration**—Expected before Spring.

★ **Kennedy (D. S.) & Co.**

March 10 it was reported company plans to issue and sell 100,000 shares of common stock. **Proceeds**—For working capital. **Business**—Manufactures radar antenna. **Underwriter**—W. C. Langley & Co., Boston and New York. **Offering**—Tentatively expected early in April.

★ **Kentucky Utilities Co.**

Jan. 21 it was reported company plans to issue and sell \$10,000,000 of first mortgage bonds. **Proceeds**—To repay bank loans and for new construction. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Blyth & Co., Inc.; Lee Higginson Corp.; Equitable Securities Corp.; Eastman Dillon, Union Securities & Co. and Merrill Lynch, Pierce, Fenner & Smith (jointly); Kidder, Peabody & Co. and White, Weld & Co. (jointly); Kuhn, Loeb & Co. **Offering**—Expected in September or October.

★ **Kentucky Utilities Co.**

Jan. 21 it was also reported that company may offer approximately 165,000 additional shares of its common stock to its common stockholders on a 1-for-15 basis. **Underwriters**—Blyth & Co., Inc. and J. J. B. Hilliard & Son.

★ **Litton Industries, Inc.**

Dec. 14 stockholders approved the creation of an issue of 16,000 shares of \$100 par preferred stock and an increase in the authorized common stock from 2,000,000 to 3,500,000 shares. **Underwriters**—Lehman Brothers and Clark, Dodge & Co. handled last equity financing which was done privately.

★ **Long Island Lighting Co.**

Feb. 26 it was announced company plans to issue and sell \$20,000,000 of first mortgage bonds. **Proceeds**—To retire bank loans and for new construction. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp. and Blyth & Co., Inc. (jointly); W. C. Langley & Co.; Smith, Barney & Co. **Bids**—Expected to be received early in May.

★ **Long Island Lighting Co.**

Feb. 26 it was also announced that company plans to offer to its stockholders early in May about 690,000 additional shares of common stock at the rate of one new share for each 10 shares held. **Proceeds**—To repay bank loans and for new construction. **Underwriters**—Blyth & Co., Inc.; The First Boston Corp., and W. C. Langley & Co.

★ **Louisiana Power & Light Co.**

Dec. 16, it was announced company may borrow \$11,500,000 from banks pending a final financing program relating to the disposition of its gas properties to Louisiana Gas Service Co., a new company.

★ **Master Fund, Inc., Fairfield, Calif.**

Jan. 27 it was announced this newly organized investment company plans to offer to bona fide residents of California 10,000 shares of capital stock (par \$1). **Price**—\$10 per share, less an underwriting discount of 8½%. **Proceeds**—For investment.

★ **Missiles-Rockets-Jets & Automation Fund, Inc.**

On Jan. 7 this new fund registered under the Investment Company Act of 1940. Plans to issue \$15,000,000 common stock, of which \$7,500,000 will be underwritten on a firm basis by Ira Haupt & Co. **Price**—\$10. **Proceeds**—For investment. **Technological Advisors**—Include Dr. Theodore von Karman, Chairman of the advisory group for aeronautical research and development of NATO.

★ **Mountain Fuel Supply Co.**

March 3 it was reported company expects to do some debt financing prior to July 1, 1958. **Proceeds**—Among other things, to repay \$11,000,000 of bank loans. **Underwriter**—The First Boston Corp., New York.

★ **National Distillers & Chemical Corp.**

March 3 it was reported company is expected to issue and sell about \$50,000,000 to \$60,000,000 long-term securities. **Proceeds**—Will probably be used to repay bank loans and for new construction. **Underwriters**—Glore, Forgan & Co. and Harriman Ripley & Co. Inc., both of New York.

★ **New England Electric System (4/15)**

March 3, it was announced that company is planning to offer 968,549 of common shares (par \$1) to stockholders on a 1-for-12 basis; unsubscribed shares will be made available for subscription by employees under a 1958 employee share purchase plan. **Underwriter**—To be determined by competitive bidding. Probable bidders: Carl M. Loeb, Rhoades & Co.; Ladenburg, Thalmann & Co., and Wertheim & Co. (jointly); Merrill Lynch, Pierce, Fenner & Smith, Kidder, Peabody & Co. Inc., and White, Weld & Co. (jointly); Blyth & Co. Inc., Lehman Brothers, and Bear, Stearns & Co. (jointly). **Bids**—Tentatively set for April 15. **Registration**—Expected March 14.

★ **New England Power Co. (6/11)**

March 3 it was announced this company, a subsidiary of New England Electric System, proposes to file \$10,000,000 principal amount of first mortgage bonds, series H, due 1988. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; Kuhn, Loeb & Co., Eastman Dillon, Union Securities & Co. and Salomon Bros. & Hutzler (jointly); Lehman Brothers; Merrill Lynch, Pierce, Fenner & Smith; Kidder, Peabody & Co. and White, Weld & Co. (jointly); Equitable Securities Corp. and Blair & Co., Inc. (jointly). **Bids**—Tentatively scheduled to be received on June 11 at 441 Stuart St., Boston 16, Mass. **Registration**—Expected early in May.

★ **New England Telephone & Telegraph Co. (4/14)**

Feb. 19 it was announced company plans to issue and sell \$45,000,000 of 35-year debentures. **Proceeds**—To redeem \$35,000,000 of 4¾% debentures due 1986 and to repay advances from American Telephone & Telegraph Co. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Morgan Stanley & Co.; The First Boston Corp. **Bids**—Tentatively scheduled to be received on or about April 15.

★ **New Jersey Power & Light Co.**

Feb. 24 it was reported company plans to issue and sell \$7,500,000 first mortgage bonds due 1988. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Kuhn, Loeb & Co.; Lehman Brothers, and Salomon Bros. & Hutzler (jointly); Eastman Dillon, Union Securities & Co., and White, Weld & Co. (jointly); The First Boston Corp.; Merrill Lynch, Pierce, Fenner & Smith; Equitable Securities Corp. **Bids**—Expected to be received between April 15 and May 15.

★ **Niagara Mohawk Power Co.**

March 3 it was reported company may issue and sell \$50,000,000 of mortgage bonds, probably this fall. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Morgan Stanley & Co.; The First Boston Corp.

★ **Northern Pacific Ry. (4/15)**

Bids are expected to be received by this company on April 15 for the purchase from it of about \$7,600,000 equipment trust certificates. Probable bidders: Halsey, Stuart & Co. Inc.; Salomon Bros. & Hutzler.

★ **Northern States Power Co. (Minn.)**

Jan. 13 it was reported that the company may be considering the issue and sale this Summer of about \$25,000,000 of first mortgage bonds. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp. and Blyth & Co., Inc. (jointly); Merrill Lynch, Pierce, Fenner & Smith, Kidder, Peabody & Co. and White, Weld & Co. (jointly); Lehman Brothers and Riter & Co. (jointly); Equitable Securities Corp. and Eastman Dillon, Union Securities & Co. (jointly).

★ **Oklahoma Gas & Electric Co.**

Feb. 3 it was reported company plans to issue and sell \$15,000,000 of bonds this year. **Underwriter**—To be determined by competitive bidding. Probable bidders: (1) For bonds—Halsey, Stuart & Co. Inc.; Equitable Securities Corp.; The First Boston Corp.; Kuhn, Loeb & Co.; Merrill Lynch, Pierce, Fenner & Smith and White, Weld & Co. (jointly); Harriman Ripley & Co. Inc. and Eastman Dillon, Union Securities & Co. (jointly).

★ **Pacific Telephone & Telegraph Co.**

Jan. 8 it was reported company plans \$300,600,000 capital outlay program. **Proceeds**—For construction program in 1958 and 1959 (\$137,000,000 in 1958). **Underwriter**—To be determined by competitive bidding. Probable bidders—Halsey, Stuart & Co. Inc.; Morgan Stanley & Co.

Philadelphia Electric Co. (4/29)

Jan. 27 it was reported company plans to issue and sell \$40,000,000 of first mortgage bonds due 1988. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; The First Boston Corp.; White, Weld & Co.; Morgan Stanley & Co. and Drexel & Co. (jointly). **Bids**—Expected to be received up to noon (EST) on April 29. **Registration**—Planned for April 3.

Public Service Co. of Oklahoma

Jan. 25 it was reported company plans to issue and sell in May \$16,000,000 of first mortgage bonds due 1988. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; White, Weld & Co.; and Shields & Co. (jointly); Blyth & Co., Inc.; Salomon Bros. & Hutzler; Kuhn, Loeb & Co. and Eastman Dillon, Union Securities & Co. (jointly); The First Boston Corp.; Glore, Forgan & Co.; Equitable Securities Co.

Puget Sound Power & Light Co. (4/28)

Jan. 29, Frank McLaughlin, President, announced company plans to issue and sell \$30,000,000 of first mortgage bonds. **Proceeds**—To redeem \$20,000,000 of 6½% series bonds due 1987 and to finance new construction. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc. and Lehman Brothers (jointly); Stone & Webster Securities Corp., The First Boston Corp. and Smith, Barney & Co. (jointly). **Bids**—Expected to be received on April 28. **Registration**—Expected on March 20.

Riddle Airlines, Inc.

Oct. 21 it was announced company plans to register with the SEC an issue of new common stock, the number of shares and the price at which they will be offered not yet determined. The authorized common stock has been increased from 7,500,000 to 15,000,000 shares. **Proceeds**—To finance route expansion and for working capital. **Underwriter**—James H. Price & Co., Inc., Coral Gables, Fla. and New York, N. Y., handled previous public offering of 500,000 shares of common stock at \$3.25 per share in July, 1956.

Royal Bank of Canada (3/19)

Feb. 26 the Bank announced it plans to offer 1,008,000 shares of capital stock to stockholders of record March 5, 1958 at the rate of one new share for each five shares held; rights will expire on June 10, 1958. **Price**—\$37.50 per share (in Canadian currency). **Proceeds**—To increase capital and surplus. **Underwriter**—None. This issue will not be registered with SEC.

Sierra Pacific Power Co. (4/16)

Jan. 27 it was also reported that the company plans to offer to its common stockholders the right to subscribe for 57,362 additional shares of common stock (probably with an oversubscription privilege). **Proceeds**—For construction program. **Underwriter**—Exemption from com-

petitive bidding to be sought. Stone & Webster Securities Corp. and Dean Witter & Co. (jointly) were only bidders for last rights offer, which was on a competitive basis.

Sierra Pacific Power Co. (4/23)

Jan. 27 it was reported company plans to issue and sell \$3,000,000 of first mortgage bonds due 1988. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Kidder, Peabody & Co.; Stone & Webster Securities Corp. and Dean Witter & Co. (jointly). **Bids**—Tentatively scheduled to be received on April 23. **Registration**—Planned for March 25.

Southern Counties Gas Co. of California

Dec. 16 it was reported company plans to issue and sell in March, 1958, \$15,000,000 of first mortgage bonds. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Blyth & Co., Inc.; White, Weld & Co.; Merrill Lynch, Pierce, Fenner & Smith.

Southern Nevada Power Co.

Dec. 3 it was announced company plans to raise in mid-1958 between \$5,000,000 and \$6,000,000 new capital, about two-thirds of which will be through bond financing and the balance through common stock financing. **Underwriter**—For stock, may be Hornblower & Weeks, William R. Staats & Co. and The First California Co. (jointly). For bonds, to be determined by competitive bidding. Only bidders in 1956 for \$4,000,000 bonds were Halsey, Stuart & Co. Inc.; Hornblower & Weeks and William R. Staats & Co. (jointly).

★ Southern Pacific Co. (4/21)

Bids are expected to be received by the company on April 21 for the purchase from it of approximately \$8,000,000 equipment trust certificates. Probable bidders: Halsey, Stuart & Co. Inc.; Salomon Bros. & Hutzler.

Tel-A-Sign Inc., Chicago, Ill.

March 3, it was announced the company plans to file with the SEC a proposal to issue 180,000 shares of common stock (par 20 cents). **Price**—To be determined at time of offering. **Proceeds**—For working capital and other corporate purposes. **Underwriters**—Floyd D. Cerf Jr. Co. Inc., Chicago, Ill.; Charles Plohn & Co., New York, N. Y., and Clayton Securities Corp., Boston, Mass.

Toledo Edison Co.

Jan. 20 it was reported company plans to issue and sell about \$15,000,000 of first mortgage bonds in April or May of this year. **Proceeds**—To repay bank loans. **Underwriter**—If issue is not placed privately, underwriter may be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Equitable Securities Corp.; Eastman Dillon, Union Securities & Co.; and Salomon Bros. & Hutzler (jointly); Carl M. Loeb, Rhoades & Co.; The First Boston Corp.; White, Weld & Co.

Tuttle Engineering, Inc., Arcadia, Calif.

Feb. 10, Leo L. Strecker, President, announced corporation plans issue and sale in near future of \$1,000,000 convertible debentures or preferred stock, to be followed later in 1958 by the sale of about \$5,000,000 of common stock. **Proceeds**—For working capital and other corporate purposes.

United Gas Improvement Co. (5/13)

Jan. 28 it was reported company plans to issue and sell \$15,000,000 of first mortgage bonds. **Proceeds**—To repay bank loans and for construction program. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Morgan Stanley & Co.; The First Boston Corp.; Kidder, Peabody & Co.; White, Weld & Co.; Merrill Lynch, Pierce, Fenner & Smith and Eastman Dillon, Union Securities & Co. (jointly). **Bids**—Expected to be received on May 13. **Registration**—About April 11.

Virginia Electric & Power Co. (6/10)

Dec. 26 it was reported company plans to issue and sell \$25,000,000 bonds or debentures. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co.; Salomon Bros. & Hutzler; White, Weld & Co.; Eastman Dillon, Union Securities & Co.; Stone & Webster Securities Corp.; Kuhn, Loeb & Co. and American Securities Corp. (jointly). **Bids**—Tentatively expected to be received on June 10.

Washington Natural Gas Co.

Oct. 18 the directors authorized the sale of \$5,000,000 in debentures. **Proceeds**—For expansion program. **Underwriter**—Blyth & Co., Inc., San Francisco and New York.

★ Wisconsin Public Service Corp.

March 4 it was announced company plans to sell about \$12,500,000 of new securities in the last half of the current year. The type of securities has not yet been decided on. **Underwriter**—To be determined by competitive bidding. Probable bidders: (1) For any bonds—Halsey, Stuart & Co. Inc.; White, Weld & Co.; The First Boston Corp.; Kidder, Peabody & Co.; Merrill Lynch, Pierce, Fenner & Smith; Eastman Dillon, Union Securities & Co. and Salomon Bros. & Hutzler (jointly); Kuhn, Loeb & Co., and American Securities Corp. (jointly). (2) For any preferred stock—Merrill Lynch, Pierce, Fenner & Smith; Salomon Bros. & Hutzler and Eastman Dillon, Union Securities & Co., (jointly); Lehman Brothers; Kuhn, Loeb & Co. and A. C. Allyn & Co. Inc. (jointly); The First Boston Corp.; White, Weld & Co.; Kidder, Peabody & Co.

★ Worcester Gas Light Co.

Feb. 24 it was reported company may issue and sell \$5,000,000 of first mortgage bonds. **Underwriter**—To be determined by competitive bidding. Probable bidders: Halsey, Stuart & Co. Inc.; Coffin & Burr, Inc.; Kidder, Peabody & Co. and White, Weld & Co. (jointly). **Bids**—Expected to be received sometime in April.

Our Reporter's Report

Newest monetary moves designed to spur the economy out of its downturn appeared to exercise little influence on the investment markets.

Its probable significance as a forerunner of a new inflationary thrust, through the medium of deficit spending and tax reduction did, however, tend to firm up the equity market.

For the moment the bond market did little more than rumble along in a narrow groove not getting very far in either direction. The U. S. Government list appeared to be sobered by knowledge of the fact that the Treasury will be in the market in the near future to raise additional new money.

Armed with its newest rise in the debt limit to \$280 billion, the national exchequer now has elbow room for seeking out its new needs. And until the Street and the investment world in general get a better idea of what it might have in mind, consensus is that things will be a bit on the slow side.

There is a disposition to look for a new intermediate term offering probably up to \$3 billion, with an eight- or nine-year maturity. But the tendency is to go slow and see if the powers might attempt a bit longer maturity.

Meantime, institutional inves-

tors, while giving a little from their recent stubborn ideas on what constitutes a fair yield on their funds, did not capitulate by a long shot. Prospective borrowers, and where bidding was involved, investment bankers, too, appeared well aware of this situation and there was no headlong rush to push yields severely lower.

Moving Shelf Stocks

The week brought a slightly improved smattering of investor interest in some of the recent issues which had found the going rather hard at the outset. But while this showed up in a bit more activity, few such items were able to renegotiate fully their original offering prices.

They did, however, get away from the lows to which they had settled when turned loose by sponsors. And, since the forward calendar is somewhat on the light side for the ensuing fortnight, the hope is that much of the inventory on dealers' shelves would be moving out to buyers in that period.

Several Issues Ahead

And hand-in-hand with the light roster ahead, it develops that the bulk of the new offerings next week will be handled via the negotiated route. Of the several issues slated for market only two, Georgia Power Co.'s \$24 million, and Carolina Power & Light's \$20 million, both mortgage bonds, will be up for competing bids.

On Tuesday, Tennessee Gas Transmission Co. has \$30 million of debentures and \$20 million of new preferred stock scheduled for public offering through bankers.

And on Wednesday, Texas Eastern Transmission Corp. will be

marketing, also through its bankers, \$25 million of new debentures.

Not Quite Ready

Merrimack-Essex Electric Co., subsidiary of New England Electric System, set out on Monday to market an issue of bonds which would have replaced an issue of 5½% bonds sold last November.

The company, at that time, just about caught the market at its bottom with yields near their peak for 25 years, bringing out the issue just before the Federal Reserve made its first cut in the rediscount rates.

As things turned out currently the refinancing operation had to be postponed. Report had it that the company had stipulated a coupon rate which could not be sold in the prevailing market.

Three With Robert Ferman

(Special to THE FINANCIAL CHRONICLE)

MIAMI, Fla. — Rufus A. Artmann, Samuel Hohauser and Herbert May have become affiliated with Robert L. Ferman & Company, Ainsley Building.

With Security Associates

(Special to THE FINANCIAL CHRONICLE)

WINTER PARK, Fla. — George W. Hines is now with Security Associates, Inc., 137-139 East New England Avenue, members of the Philadelphia-Baltimore and Midwest Stock Exchanges.

Two With Beil & Hough

(Special to THE FINANCIAL CHRONICLE)

ST. PETERSBURG, Fla. — Emery C. Browning and Palmer S. Olsen have become affiliated with Beil & Hough, Inc., 350 First Avenue, North, members of the Midwest Stock Exchange.

Eastman Dillon Group Offer Mississippi River Fuel Debentures

A good reception was given to an offering yesterday (March 12) of \$30,000,000 Mississippi River Fuel Corp. 20-year 4¾% sinking fund debentures, due 1978, it was announced by the underwriters headed by Eastman Dillon, Union Securities & Co. The debentures are priced at 100.50% and accrued interest to yield approximately 4.71% to maturity.

Mississippi River Fuel will apply the net proceeds from the sale toward the repayment of \$30,000,000 of bank loans incurred from 1955 through 1957 primarily to finance construction of a chemical plant, to finance entry into the drilling mud business, for development of oil and gas properties and for additions to working capital.

About 62% of the company's revenues comes from operations of its pipeline division which purchases, gathers and transports natural gas. Pipeline division gas sales are made principally in the Greater St. Louis area. The company's gas and oil division produces crude oil, natural gas and condensate and its chemical division produces ammonia and other nitrogen compounds which are processed and sold for agricultural and other uses. The Milwaukee Mud Sales Co., wholly-owned, produces weight materials used in drilling oil and gas wells.

The debentures are non-redeemable for five years with moneys obtained at a lower interest cost, but are otherwise callable at prices ranging from 105.25% to the principal amount. On or after March 15, 1963 the debentures are redeemable for a sinking fund at

prices ranging from 100.43% to the principal amount.

In 1957 total revenues of Mississippi River Fuel were \$75,023,000 and net income amounted to \$7,086,000, compared with revenues of \$71,093,000 and net income before special credit of \$7,412,000 in 1956.

Jerry Thomas Adds

(Special to THE FINANCIAL CHRONICLE)

PALM BEACH, Fla. — Jean H. Wolfe has been added to the staff of Jerry Thomas & Co., Inc., 305 South County Road.

Joins A. M. Kidder

(Special to THE FINANCIAL CHRONICLE)

DELAND, Fla. — Gordon J. Toll is with A. M. Kidder & Co., Inc., 114 West Indiana Avenue.

Two With Hardy, Hardy

(Special to THE FINANCIAL CHRONICLE)

SARASOTA, Fla. — John R. E. Booker and Paul W. Purmort are now with Hardy, Hardy & Associates, Inc., 1278 North Palm Ave.

Goodbody Adds to Staff

(Special to THE FINANCIAL CHRONICLE)

MIAMI, Fla. — Robert F. Bannister has been added to the staff of Goodbody & Co., 14 Northeast First Avenue.

Joins Merrill Lynch

(Special to THE FINANCIAL CHRONICLE)

MIAMI, Fla. — William J. Claflin, Jr. has become associated with Merrill Lynch, Pierce, Fenner & Smith, du Pont Building.

Frank Newman Adds

(Special to THE FINANCIAL CHRONICLE)

MIAMI, Fla. — Wesley E. Matthews, Jr. has been added to the staff of Frank D. Newman & Co., Ingraham Building.

Sovereign Reports

Sovereign Investors reporting as of Jan. 31, 1958 shows total net assets of \$1,948,772.97 compared with \$1,837,746.50 on Jan. 31, 1957. This represents an increase of 6% for the period. Outstanding shares of the Fund rose 17% during the same period. The net assets per share on Jan. 31, 1958 amounted to \$10.99 as compared with \$12.92 on Jan. 31, 1957.

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Mutual Funds

By ROBERT R. RICH

Distributors Group Appraises Securities Outlook

In its latest interim report, Distributors Group, Inc., sponsors of Group Securities, Inc., advises that while we must continue to guard against extremes of emotion we must remain "realistically alert to the advantage of long-term investment in undervalued securities."

It is added that the correction period through which we have been passing "is further along than may appear and that opportunities for more aggressive investment at relatively low risk should be watched for as the year develops."

The report comments on the business outlook and the price position of the stocks of the various industrial groups represented by the company's specialized funds. These are treated in three categories, namely, those typically suitable as investments for: (1) long-term growth of principal and income, (2) relative stability of principal and income, and (3) cyclical price action.

The industries typically useful for long-term growth of principal and income, i.e., aviation, petroleum, chemical and electronics, are described as having experienced temporary interruptions in their long-term growth trends, but now appear to be in a position from which they can resume their upward movement.

Because of the increasing emphasis given the missile program, together with the rising volume of orders for commercial transports, aviation companies are expected to carry on at a high level of operation this year. Electronics, another favorite of investors seeking long-term growth, is predicted to reach new peaks in 1958 in the production both of military and civilian equipment.

Of the industries providing investments for relative stability of principal and income, the Report mentions the tobacco industry as the star performer for the past year or more, and states the belief that this trend should continue. Three favorable conditions are cited. One, the industry, "despite adverse publicity, has been favored with a relatively stable and depression-resistant market," which has won the confidence of many investors. Two, cigarette sales should increase in 1958 to an all-time high. And three, more people are becoming aware of the good values offered by the tobacco stocks. According to the report, utility stocks have done well market-wise and continue to offer excellent long-term prospects as each year sees a new record established in kilowatt output. Both food and merchandising stocks, notwithstanding better-than-average performance in the latter half of 1957, are still deemed likely to offer attractive values in 1958.

In treating the third category—investments for cyclical price action—the Report suggests that this is the area in which later opportunities might generally lie. After predicting a record year for the building industry it proposes that in the light of this prediction the fact that the industry suffered "a rather sharp correction" during the past eighteen months suggests that building stocks may well be among the first to recover with a revival of the economy.

Automobile and steel stocks are represented to be experiencing periods of uncertainty with no definite or immediate prospects for an upward movement. Both industries are expected to produce less this year than in 1957, but are commended to the investor's attention for later opportunities.

In the opinion of Distributors Group, industrial machinery, mining and railroad equipment stocks have not as yet shown any positive indication of reversing their unfavorable trends and as a result, should be approached with caution. With regard to the situation of the railroad industry, the report has this to say: "Although some decline in the volume of railroad traffic is expected in 1958, a higher rate schedule should hold total gross revenues fairly close to those of 1957."

The investor is advised, in spite of the declining trend in relative price action, to be alert for a "long overdue reversal." Favorable comment also is given with respect to the values and attractive current return offered by well-selected railroad bonds.

Colonial's First Quarter Results

The Colonial Fund in its report to shareholders for the quarter ended Jan. 31, 1958 shows an increase in assets available for investment to \$43,308,000 from \$39,973,000 at the end of the previous fiscal quarter. For the same period, the asset value per share rose from \$8.26 to \$8.46.

Principal purchases of The Colonial Fund for the quarter

ended Jan. 31, 1958 included 1,000 shares each of Ford Motor, General Public Utilities and Halliburton Oil Well Cementing; 2,000 shares each of El Paso Electric and Socony Mobil Oil; 5,000 shares of Gulf Interstate Gas and 5,802 shares of Standard Oil (N. J.). Sales included 4,500 shares of Royal Dutch Petroleum, 1,500 shares of Kennecott Copper and 2,000 shares of El Paso Natural Gas \$5 convertible 2nd preferred.



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Keystone S-4 Sales At High Rate

Purchase of shares of Keystone Low-Priced Common Stock Fund S-4 exceeded redemptions by a ratio of almost 6 to 1 from July to December, according to the semi-annual report for the six months ended Jan. 31.

The report points out, "There was impressive evidence in 1957 that investors who seek long-term growth regard interim declines as advantageous buying opportunities."

In the six-month period, Keystone almost doubled its holdings in electric products, which now constitute 17.4% of the \$14 million portfolio. Substantial cuts were made in the metals and mining and steel groups.

Largest individual holdings among the 45 issues, as Jan. 31, were Standard Packaging Corp., Polaroid Corp., American Air Filter Co., American Bosch Arma Corp., and Ampex Corp.

	Jan. 31 1958	Jan. 31 1957
Total Net Assets	\$14,075,938	\$14,231,096
Shares Outstanding	1,989,552	1,497,123
No. Shareholders	9,074	7,005
Asset Value Per Sh.	\$8.42	\$9.57
Income Per Share (6 months)	0.08	0.11

*Adjusted to include capital gains distribution of \$1.35 per share on July 5, 1957.

Investment Changes

(Aug. 1, 1957 to Jan. 31, 1958)

Additions	
12,000	Brunswick-Balke Collender
11,500	Eastern Industries
5,030	Hagan Chemicals
25,000	Hilton Hotels
4,000	Maryland Casualty
3,500	Shulton, Inc. "A"
4,800	Shulton, Inc. "B"
Eliminations	
10,000	Clevite
12,000	Dayton Rubber
10,400	Garrett
8,400	Martin Co.
11,200	Sundstrand Machine Tool
9,000	Ventures, Ltd.

American Fund Share Value and Assets Gain

American Mutual Fund recorded increases both in net assets and in net investment income for the three-months period ended Jan. 31, according to President Jonathan B. Lovelace in his report to the shareholders for the first quarter of the Fund's fiscal year.

Total net assets at Jan. 31, 1958 were \$66,213,808, equivalent to \$7.20 per share on the 9,193,364 shares outstanding. This compares with a total of \$63,768,099 at Oct. 31, 1957, equivalent to \$7.15 per share on the 8,921,330 shares then outstanding.

Net income, excluding realized gains on sales of securities, in the three months ended Jan. 31, 1958 was \$664,332 or approximately 7.34 cents per share on the average number of shares (9,041,341) outstanding during the quarter. This compares with \$503,941 or approximately 7.12 cents per share on the average number of shares (7,074,573) outstanding in the three-months period ended Jan. 31, 1957.

Lehman Bros. May Enter Mutual Field

Lehman Brothers, prominently identified with the famed closed-end Lehman Corporation, is giving very serious consideration to the creation of a fund of the open-end or "mutual" calibre. If present plans materialize, formal announcement of the step will be made at mid-summer at the latest. Necessarily, no information is currently available for publication as to the form the proposed fund will take or the initial capitalization, etc. In any event, the investment banking firm would be the sponsor and share underwriter and undertake management functions.

Business Outlook Long-Short View

On a near-term projection, the year book of Institutional Funds states that the present adjustment of business activity is expected to bottom out during 1958, to be followed by a resumption of the advance of recent years. It is foreseen for the year 1958 declines in capital expenditures, exports and in some manufacturing industries. Gross National Product, the value of all goods and services produced, is expected to be maintained at a high level. Home building and government spending, at municipal, state and Federal levels, are expected to exceed 1957 outlays.

Concerning the long-term outlook, a number of factors are seen at work which point to a continued healthy growth of the American economy in the years ahead, including the current emphasis on research for defense developments generated by recent Russian scientific advances. In this, industry can be expected to

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produce new products for military as well as domestic consumption.

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Therefore, the study reasons, the long-term implications are that demands on industry for new and better products will be tremendous.

Bullock Bullish On Growth Stocks

Bullock Fund, Ltd., continues to place emphasis on the selection of stocks of companies appearing to have favorable long-term growth characteristics.

Amounts invested in the drug and medical supplies field and the chemical industry were increased during the three months ended Jan. 31, 1958, Hugh Bullock, President said, and substantial positions continue to be maintained in the petroleum, steel and aircraft and defense groups. While the so-called "growth" stocks are sensitive to changes in the business outlook, he reported, the expanding markets for their products and the substantial investments these companies are making in research and development make them attractive as companies which may be among the leaders in the next upward surge of the economy.

At Jan. 31, 1958, total net assets of the fund were \$32,553,824, of which 82.05% represented common stocks and 17.95% represented U. S. Government bonds and cash which constituted reserves for the acquisition of additional stocks as occasion presents. As of Nov. 30, 1957, the fund's fiscal year-end, total net assets were \$31,784,253.

Futures, Inc. Makes Report

Futures, Inc., the commodity mutual fund, had total net assets of \$281,793 as of Dec. 31, 1957, compared with \$173,293 at the close of 1956, Richard Donchian, fund manager, announced March 4 in a report to stockholders.

Net asset value per share increased to \$5.08 at Dec. 31, 1957, from \$2.84 on Dec. 31, 1956, Mr. Donchian said.

In his message to shareholders, he stated, "Our portfolio of open commodity futures positions now shows net-long positions in 7 commodities and net short positions in 9. If trends change, according to our tested trend-determining rules, any or all of these positions can be reversed quickly."

"Our largest position is on the short side of coffee, taken on the basis of technical downward trends which are supported by (1) a bearish supply-demand picture and (2) a strong seasonal downward tendency from January until the end of April."

Wellington's Record

In spite of stock market uncertainty during the months of January and February, 1958, Wellington Fund sales for the two month period were higher than the similar two months period during 1957, according to A. J. Wilkins, Vice-President.

Sales for each of the above mentioned months of 1958 as compared with similar months of 1957 are:

	1957	1958
Jan. -----	\$9,772,000	\$9,224,000
Feb. -----	7,754,000	8,315,000

Two mos. \$17,526,000 \$17,539,000

Managed Funds Makes Report For Quarter

Slight gains in net assets and sales and a "very small" rise in the redemptions-to-sales ratio over the 1957 first quarter were reported by Managed Funds, Inc. for the three-month period ended Feb. 28th.

Hilton H. Slayton, president of the nationally-distributed mutual fund group, disclosed total net assets of \$48,534,137 at the end of last month, compared with \$48,257,346 on Feb. 28th a year ago. The asset total at the end of the 1957 fiscal year, last Nov. 30th, amounted to \$48,293,387.

Shares outstanding on Feb. 28th were at a record 18,536,171, compared with 17,455,484 on Nov. 30th, and 14,509,454 at the close of the first 1957 quarter.

The fund group's total number of shareholders on the same dates were 19,000 (a new high), 18,755 and 14,780.

The dollar volume of share purchases during the quarter just ended amounted to \$3,573,276, slightly above the \$3,562,267 total for the like period a year ago. Sales during the last quarter of 1957 were \$3,938,632.

Mr. Slayton said last December's sales were \$1,126,950, the largest ever for that "traditionally slow month" and 33.9% higher than the December, 1956 total.

The ratio of redemptions to sales for the quarter was still far below the fund industry average, although slightly higher than during the like 1957 period: 12.7%, compared with 11.9% a year ago, and 6.4% during the three months ending last Nov. 30th.

"By many of the usual standards of comparison, our opening quarter was an extremely gratifying one," Mr. Slayton said. "But perhaps even more gratifying—as far as the future of mutual funds is concerned—was the overall performance of the fund industry during the period."

"Neither the recession nor its effect on the market has seriously shaken the confidence of investors in mutual funds. And it has been apparent for several months now that the fears of some that funds would suffer drastically in any sustained decline were largely unfounded."

National Sales At New Record

Investors' purchases of National Securities Series of mutual funds for the first two months of 1958 established an all-time record of \$13,762,000 according to figures released by E. Waln Hare, vice-president of National Securities & Research Corporation. This represents an increase of 6% over the similar period last year.

Personal Progress

Martin J. Fribush and Arthur J. Tobias have joined the staff of Distributors Group, Inc., national sponsor and investment advisor of Group Securities, Inc., \$100,000,000 mutual fund.

Mr. Fribush, a native of Albany, New York, is a graduate of Hamilton College and the Columbia Law School, where he was editor-in-chief of the Columbia Law School News.

Mr. Tobias, a Brooklyn resident, attended James Madison High School. He graduated from Yale University in 1954. At both schools he participated in competitive swimming. Subsequently, he attended law school at the University of Virginia.

Continued from page 6

Electronics Outlook For 1958: Baker

ping up in missile output should more than compensate.

While military uses of electronic equipment are perhaps the most important at present to our national welfare, the expanding industrial and commercial markets offer the greatest long-range opportunities for the continued growth of the electronics industry. They also assure further expansion of the servicing business, which amounted to \$1.2 billion in 1957.

The transistor, sales of which reached 27 million in 1957, and other semiconductor devices are revolutionizing the application of electronics to industry and commerce.

Closed-Circuit TV

Closed-circuit television, which until recently has been confined largely to industrial uses, promises to give educational television new life. The national experiment being conducted at Hagerstown, Md., under the co-sponsorship of EIA and The Fund for the Advancement of Education already has proved the effectiveness of TV as a teaching tool in both elementary and high schools. Several colleges and universities are finding it equally potent for institutions of higher learning.

With the rising national interest in better educational opportunities for our youth, augmented by the realization of our neglect of the sciences, television provides a ready and effective means for overcoming the shortage of teachers and bringing the best teaching talent to the greatest number of pupils.

Oliver Goshia Joins Staff of Prescott & Co.

CLEVELAND, Ohio — Oliver Goshia is now associated with Prescott & Co., National City



Oliver Goshia

Bank Building, members of the New York and Midwest Stock Exchanges. In the past Mr. Goshia conducted his own investment business in Toledo.

William B. Denny Joins Dempsey-Tegeler & Co.

CHICAGO, Ill. — William B. Denny has joined the trading department of Dempsey-Tegeler & Co., 209 South La Salle Street. Mr. Denny was formerly with Manley, Bennett & Co. in Detroit. The firm also announces that their new teletype numbers in Chicago are CG 3333-4-5.

John H. Cowie With Moore, Leonard & Lynch

John H. Cowie has become associated with Moore, Leonard & Lynch, 14 Wall Street, New York City. Mr. Cowie was formerly a partner in Starkweather & Co.

Continued from page 8

Dealer-Broker Investment Recommendations & Literature

Broadway, New York 4, N. Y. Also available is a study of **Emerson Electric Manufacturing Co.**
American National Insurance Company—Review—Boenning & Co., 1529 Walnut Street, Philadelphia 2, Pa.
Beneficial Finance Co.—1957 Annual Report—Beneficial Finance Co., Beneficial Building, Wilmington, Del.
Burroughs Corporation—Report—Joseph Faroll & Co., 29 Broadway, New York 6, N. Y.
Canadian Delhi Oil Limited—Appraisal—Wisener and Company, Limited, 73 King Street, West, Toronto 1, Ont., Canada.
Cenco Instruments Corporation—Analysis—Laird, Bissell & Meeds, 120 Broadway, New York 5, N. Y. Also available is an analysis of **Giant Portland Cement Company**.
Central Hudson Gas & Electric Corporation—Annual Report—Central Hudson Gas & Electric Corporation, Poughkeepsie, N. Y.
Central Valley National Bank—Analysis—Holton, Hull & Co., 210 West Seventh Street, Los Angeles 14, Calif.
Christiana Securities Co.—Bulletin—Laird, Bissell & Meeds, 120 Broadway, New York 5, N. Y.
Clinton Machine Company—Analysis—Securities Corporation of Iowa, Merchants National Bank Building, Cedar Rapids, Iowa.
Collins Radio—Memorandum—Hemphill, Noyes & Co., 15 Broad Street, New York 5, N. Y. Also available is a memorandum on **National Tea Co.**
Commonwealth of Kentucky—Bulletin—Robert H. Huff & Co., 210 West Seventh Street, Los Angeles 14, Calif.
Continental Motors Corporation—Bulletin—De Witt Conklin Organization, 120 Broadway, New York 5, N. Y. Also available is a bulletin on **Alaska Airlines**.
Detroit Edison Co.—Memorandum—A. M. Kidder & Co., Inc., 1 Wall Street, New York 5, N. Y.
Dixon Chemical & Research—Information—Pearson, Murphy & Co., Inc., 50 Broad Street, New York 4, N. Y. Also available is information on **Northeast Metals Industries**.
Emerson Electric Manufacturing Company—Report—Counselors Research Corporation, 411 North Seventh Street, St. Louis 1, Mo.
Friden, Inc.—Report—Dean Witter & Co., 14 Wall Street, New York 5, N. Y. Also available is an analysis of **Transamerica Corporation**.
G. L. Electronics—Memorandum—Woodcock, Hess, Moyer & Co., 123 South Broad Street, Philadelphia 9, Pa.
Hazel Park Racing Association Inc.—Report—M. J. Reiter Company, 60 Wall Street, New York 5, N. Y.
Ideal Cement Company—Analysis—Hayden, Stone & Co., 25 Broad Street, New York 4, N. Y.
Mississippi Glass Co.—Memorandum—Doyle, O'Connor & Co., 135 South La Salle Street, Chicago 3, Ill.
Mohawk Rubber Company—Analysis—J. N. Russell & Co., Inc., Union Commerce Building, Cleveland 14, Ohio.
Quaker Oats—Bulletin—Bache & Co., 36 Wall Street, New York 5, N. Y. Also available is a bulletin on **Standard Brands**.
Shawinigan Water and Power Company—Review—McLeod, Young, Weir & Company, Limited, 50 King Street, West, Toronto, Ont., Canada.
Shawinigan Water and Power Company—Detailed Analysis—Cochran, Murray & Hay, Dominion Bank Building, Toronto, Canada.
Shell Transport & Trading Co., Ltd.—Analysis—Amott, Baker & Co., Incorporated, 150 Broadway, New York 38, N. Y. Also in the same "ABC Investment Letter" are brief analyses of **Columbia Gas System, Ohio Oil Company, Amoskeag Company, and Citizens Utilities Co.** Also available is the current tabulation of **Real Estate Bond & Stock Averages**.
Telechrome Manufacturing Corp.—Study—Amos Treat & Co., Inc., 79 Wall Street, New York 5, N. Y.
United Aircraft Corporation—Report—Thomson & McKinnon, 11 Wall Street, New York 5, N. Y.
Walker Manufacturing Company—Report—Loewi & Co., Incorporated, 225 East Mason Street, Milwaukee 2, Wis.

Ray Jacobs Joins Kalb, Voorhis & Co.

WASHINGTON, D. C. — Ray Jacobs, formerly Washington, D. C. distributor of Financial Industrial Fund, has joined Kalb, Voorhis & Co. He will be working out of the firm's Washington, D. C. office, Woodward Building, where Ferd Nauheim, partner in charge of the firm's broadening dealer service, makes his headquarters.

Ray Jacobs will concentrate on sales training for the mutual fund field and will serve as a special consultant on contractual plans.

With Allen Inv. Co.

(Special to THE FINANCIAL CHRONICLE)
 DENVER, Colo. — Howard C. Fordham has joined the staff of Allen Investment Company, 2829 East Second Avenue.

Form Cherokee Secs.

(Special to THE FINANCIAL CHRONICLE)

SOUTHERN PINES, N. C. — Cherokee Securities Corporation has been formed with offices at 118 Northwest Broad Street to engage in a securities business. Officers are Thomas C. Darst, Jr., President; Thomas C. Darst, Jr., Vice-President; and Robert L. Huffines, Jr., Vice-President and Secretary.

With Stone & Webster

Richard W. Hamilton has become associated with Stone & Webster Securities Corporation, 90 Broad Street, New York City, in the municipal bond department.

With the Alan Co.

(Special to THE FINANCIAL CHRONICLE)
 MIAMI BEACH, Fla. — James H. Webb has become connected with The Alan Company, 411 Seventy-first Street.

Indications of Current Business Activity

The following statistical tabulations cover production and other figures for the latest week or month available. Dates shown in first column are either for the week or month ended on that date, or, in cases of quotations, are as of that date:

AMERICAN IRON AND STEEL INSTITUTE:					Latest Week	Previous Week	Month Ago	Year Ago
Indicated steel operations (per cent capacity).....Mar. 16					53.1	52.8	53.5	93.8
Equivalent to—								
Steel ingots and castings (net tons).....Mar. 16					\$1,442,000	\$1,425,000	1,446,000	2,401,000
AMERICAN PETROLEUM INSTITUTE:								
Crude oil and condensate output—daily average (bbls. of 42 gallons each).....Feb. 28					6,841,285	6,807,635	6,842,385	7,518,615
Crude runs to stills—daily average (bbls.).....Feb. 28					17,560,000	17,506,000	17,548,000	18,076,000
Gasoline output (bbls.).....Feb. 28					26,731,000	25,937,000	27,040,000	26,723,000
Kerosene output (bbls.).....Feb. 28					2,775,000	2,366,000	2,486,000	2,506,000
Distillate fuel oil output (bbls.).....Feb. 28					12,155,000	12,008,000	12,543,000	14,175,000
Residual fuel oil output (bbls.).....Feb. 28					7,520,000	7,769,000	7,497,000	8,572,000
Stocks at refineries, bulk terminals, in transit, in pipe lines—								
Finished and unfinished gasoline (bbls.) at.....Feb. 28					215,191,000	213,116,000	204,559,000	203,774,000
Kerosene (bbls.) at.....Feb. 28					17,167,000	18,596,000	23,179,000	21,469,000
Distillate fuel oil (bbls.) at.....Feb. 28					88,638,000	96,668,000	123,121,000	85,698,000
Residual fuel oil (bbls.) at.....Feb. 28					54,208,000	55,435,000	57,502,000	37,064,000
ASSOCIATION OF AMERICAN RAILROADS:								
Revenue freight loaded (number of cars).....Mar. 1					553,645	492,329	550,426	703,983
Revenue freight received from connections (no. of cars).....Mar. 1					538,353	480,628	533,316	643,774
CIVIL ENGINEERING CONSTRUCTION — ENGINEERING NEWS-RECORD:								
Total U. S. construction.....Mar. 6					\$365,141,000	\$304,665,000	\$322,937,000	\$320,433,000
Private construction.....Mar. 6					168,294,000	128,238,000	182,733,000	154,197,000
Public construction.....Mar. 6					196,847,000	176,427,000	140,204,000	166,236,000
State and municipal.....Mar. 6					161,972,000	132,177,000	111,388,000	147,716,000
Federal.....Mar. 6					34,875,000	44,250,000	28,815,000	18,520,000
COAL OUTPUT (U. S. BUREAU OF MINES):								
Bituminous coal and lignite (tons).....Mar. 1					8,440,000	6,790,000	8,120,000	9,660,000
Pennsylvania anthracite (tons).....Mar. 1					571,000	427,000	461,000	458,000
DEPARTMENT STORE SALES INDEX—FEDERAL RESERVE SYSTEM—1947-49 AVERAGE = 100.....Mar. 1					100	92	92	99
EDISON ELECTRIC INSTITUTE:								
Electric output (in 000 kwh.).....Mar. 8					11,793,000	11,803,000	12,289,000	11,867,000
FAILURES (COMMERCIAL AND INDUSTRIAL) — DUN & BRADSTREET, INC.Mar. 5					358	331	342	327
IRON AGE COMPOSITE PRICES:								
Finished steel (per lb.).....Mar. 4					5.967c	5.967c	5.967c	5.670c
Pig iron (per gross ton).....Mar. 4					\$66.49	\$66.49	\$66.42	\$64.00
Scrap steel (per gross ton).....Mar. 4					\$37.67	\$37.33	\$36.67	\$50.50
METAL PRICES (E. & M. J. QUOTATIONS):								
Electrolytic copper—								
Domestic refinery at.....Mar. 5					24.425c	24.375c	24.575c	31.525c
Export refinery at.....Mar. 5					20.350c	19.725c	20.475c	30.050c
Lead (New York) at.....Mar. 5					13.000c	13.000c	13.000c	16.000c
Lead (St. Louis) at.....Mar. 5					12.800c	12.800c	12.800c	15.800c
Zinc (delivered) at.....Mar. 5					10.500c	10.500c	10.500c	14.000c
Zinc (East St. Louis) at.....Mar. 5					10.000c	10.000c	10.000c	13.500c
Aluminum (primary pig. 99%) at.....Mar. 5					26.000c	26.000c	26.000c	25.000c
Straits tin (New York) at.....Mar. 5					95.125c	94.500c	93.125c	98.625c
MOODY'S BOND PRICES DAILY AVERAGES:								
U. S. Government Bonds.....Mar. 11					94.34	94.40	94.25	90.84
Average corporate.....Mar. 11					95.62	95.62	95.92	96.54
Aaa.....Mar. 11					102.13	102.30	102.60	101.47
Aa.....Mar. 11					99.52	99.84	99.36	99.20
A.....Mar. 11					95.16	94.84	96.07	96.54
Baa.....Mar. 11					86.51	86.78	86.65	89.78
Railroad Group.....Mar. 11					91.62	91.77	91.62	95.47
Public Utilities Group.....Mar. 11					96.85	97.00	98.09	97.00
Industrials Group.....Mar. 11					98.25	98.25	98.25	97.62
MOODY'S BOND YIELD DAILY AVERAGES:								
U. S. Government Bonds.....Mar. 11					2.98	2.98	2.99	3.26
Average corporate.....Mar. 11					4.03	4.03	4.01	3.97
Aaa.....Mar. 11					3.62	3.61	3.58	3.66
Aa.....Mar. 11					3.78	3.76	3.79	3.80
A.....Mar. 11					4.06	4.08	4.00	3.97
Baa.....Mar. 11					4.67	4.65	4.66	4.43
Railroad Group.....Mar. 11					4.30	4.29	4.30	4.04
Public Utilities Group.....Mar. 11					3.95	3.94	3.87	3.94
Industrials Group.....Mar. 11					3.86	3.86	3.86	3.90
MOODY'S COMMODITY INDEX.....Mar. 11					397.0	396.9	397.0	411.8
NATIONAL PAPERBOARD ASSOCIATION:								
Orders received (tons).....Mar. 1					289,414	230,020	241,750	350,780
Production (tons).....Mar. 1					264,351	272,590	244,049	266,246
Percentage of activity.....Mar. 1					86	89	82	92
Unfilled orders (tons) at end of period.....Mar. 1					362,954	330,479	340,841	454,345
OIL, PAINT AND DRUG REPORTER PRICE INDEX—1949 AVERAGE = 100.....Mar. 7					109.47	109.33	108.63	110.97
ROUND-LOT TRANSACTIONS FOR ACCOUNT OF MEMBERS, EXCEPT ODD-LOT DEALERS AND SPECIALISTS:								
Transactions of specialists in stocks in which registered—								
Total purchases.....Feb. 15					1,309,780	1,485,200	1,628,660	1,662,160
Short sales.....Feb. 15					267,830	324,310	394,750	280,160
Other sales.....Feb. 15					1,008,250	1,227,380	1,349,890	1,430,910
Total sales.....Feb. 15					1,276,080	1,551,690	1,744,640	1,711,070
Other transactions initiated on the floor—								
Total purchases.....Feb. 15					316,420	380,420	393,670	279,170
Short sales.....Feb. 15					49,600	44,000	78,300	35,900
Other sales.....Feb. 15					275,860	390,820	320,170	307,230
Total sales.....Feb. 15					325,460	434,820	398,470	343,130
Other transactions initiated off the floor—								
Total purchases.....Feb. 15					427,380	541,977	659,935	550,985
Short sales.....Feb. 15					92,960	143,760	278,620	131,050
Other sales.....Feb. 15					507,090	632,872	471,415	651,112
Total sales.....Feb. 15					600,050	776,632	750,035	782,162
Total round-lot transactions for account of members—								
Total purchases.....Feb. 15					2,053,580	2,407,597	2,682,265	2,492,315
Short sales.....Feb. 15					410,390	512,070	751,670	447,110
Other sales.....Feb. 15					1,791,200	2,251,072	2,141,475	2,389,252
Total sales.....Feb. 15					2,201,590	2,763,142	2,893,145	2,836,362
STOCK TRANSACTIONS FOR ODD-LOT ACCOUNT OF ODD-LOT DEALERS AND SPECIALISTS ON N. Y. STOCK EXCHANGE — SECURITIES EXCHANGE COMMISSION:								
Odd-lot sales by dealers (customers' purchases)—†								
Number of shares.....Feb. 15					1,068,724	1,336,171	1,388,999	1,543,897
Dollar value.....Feb. 15					\$47,003,911	\$57,892,492	\$59,718,097	\$70,071,092
Odd-lot purchases by dealers (customers' sales)—								
Number of orders—Customers' total sales.....Feb. 15					928,044	1,013,055	948,903	1,184,517
Customers' short sales.....Feb. 15					24,192	20,961	35,357	18,463
Customers' other sales.....Feb. 15					903,852	992,094	913,546	1,166,052
Dollar value.....Feb. 15					\$41,292,892	\$45,785,039	\$40,765,537	\$55,941,254
Round-lot sales by dealers.....Feb. 15					276,190	233,770	195,840	275,810
Number of shares—Total sales.....Feb. 15								
Short sales.....Feb. 15					276,190	233,770	195,840	275,810
Other sales.....Feb. 15								
Round-lot purchases by dealers.....Feb. 15								
Number of shares.....Feb. 15					412,030	582,190	676,810	652,840
TOTAL ROUND-LOT STOCK SALES ON THE N. Y. STOCK EXCHANGE AND ROUND-LOT STOCK TRANSACTIONS FOR ACCOUNT OF MEMBERS (SHARES):								
Total round-lot sales—								
Short sales.....Feb. 15					740,750	903,330	1,291,120	737,920
Other sales.....Feb. 15					9,771,580	11,922,930	11,358,970	13,481,500
Total sales.....Feb. 15					10,512,330	12,826,260	12,650,090	14,219,820
WHOLESALE PRICES, NEW SERIES — U. S. DEPT. OF LABOR — (1947-49 = 100):								
Commodities Group.....Mar. 4					119.4	119.2	118.6	116.8
All commodities.....Mar. 4					99.0	97.3	94.2	88.5
Farm products.....Mar. 4					109.5	109.7	108.4	103.5
Processed foods.....Mar. 4					103.6	103.7	99.1	80.6
Meats.....Mar. 4					125.8	125.8	125.8	125.3
All commodities other than farm and foods.....Mar. 4								
ALUMINUM (BUREAU OF MINES):								
Production of primary aluminum in the U. S. (in short tons)—Month of November.....					135,024	133,759	145,081	
Stocks of aluminum (short tons) end of Nov.....					172,105	183,414	67,584	
AMERICAN GAS ASSOCIATION—For month or December:								
Total gas sales (M therms).....					8,016,000	6,617,700	7,368,300	
Natural gas sales (M therms).....					7,755,800	6,435,000	7,121,800	
Manufactured gas sales (M therms).....					20,600	16,500	23,400	
Mixed gas sales (M therms).....					239,600	166,200	223,100	
AMERICAN PETROLEUM INSTITUTE—Month of November:								
Total domestic production (barrels of 42 gal- lons each).....					229,667,000	237,555,000	238,438,000	
Domestic crude oil output (barrels).....					204,721,000	212,650,000	214,174,000	
Natural gasoline output (barrels).....					24,930,000	24,888,000	24,221,000	
Benzol output (barrels).....					16,000	17,000	43,000	
Crude oil imports (barrels).....					27,071,000	31,679,000	26,124,000	
Refined product imports (barrels).....					16,581,000	15,615,000	14,722,000	
Indicated consumption domestic and export (barrels).....					278,820,000	280,438,000	297,106,000	
Increase all stocks (barrels).....					5,501,000	4,411,000	17,822,000	
AMERICAN RAILWAY CAR INSTITUTE—								
Month of January:								
Orders for new freight cars.....					401	3,492	6,304	
New freight cars delivered.....					7,219	6,174	8,403	
Backlog of cars on order and undelivered (end of month).....					48,787	55,941	114,656	
AMERICAN TRUCKING ASSOCIATIONS, INC. —Month of December:								
Inter-city general freight transported by 322 carriers (in tons).....					3,729,990	4,150,987	3,721,573	
COAL EXPORTS (BUREAU OF MINES)—								
Month of December:								
U. S. exports of Pennsylvania anthracite (net tons).....					270,422	239,990	658,131	
To North and Central America (net tons).....					111,262	161,532	175,958	
To Europe (net tons).....					143,037	74,838	479,392	
To Asia (

Continued from page 8

Impact of Economic Readjustment On Trust Investment Policies

well for expanded capital expenditures. It may therefore be concluded that capital outlays in the immediate future and throughout 1958 will continue to decrease.

The economy is in the midst of a downward readjustment, as evidenced by the fact that unemployment has increased. In December it amounted to 3.4 million, or 5% of the civilian labor force. Over-time payment has virtually disappeared, and jobs are not as easily obtainable as before. Inventories are being reduced, and exports in 1958 are bound to be smaller than a year ago. Industrial productivity is, however, continuing to rise; and there is a good possibility that in the immediate future it will increase more than the rise in money wages which may take place in 1958 despite the decline in business activity. As a result of these developments, wholesale prices have tended to level out. In mid-January the index stood at 118.7 (1947-49=100) as compared with 117.4 in June, 1957 and 116.9 in January, 1957. The rise in the consumer index in 1957 (3.4%) was considerably larger, but since midyear the increase has slowed up.

The main question confronting us today is: How far will the present readjustment go and how long will it last? Any prediction is hazardous. In many respects, the economic situation today is more serious than in 1948 or in 1953. The pent-up demand for housing and for durable goods, which existed in 1948 and to a lesser extent in 1953 has largely disappeared. Private indebtedness has increased materially during the past few years, and the economic comeback of the free world has been remarkable indeed. International competition is keen and in all probability it will increase.

As against these factors, it must be noted that Federal expenditures will continue to increase, whereas they declined sharply in 1954. Even though the President forecasts a balanced budget for the coming fiscal year, one may take it for granted that this will not be the case and that deficit financing will prevail during the 1958 and 1959 fiscal years. This situation, together with a number of other strong forces operating in the economy, leads to the conclusion that by the end of the year (the exact timing is extremely difficult) the readjustment will be over and that after a period of relative stability the economy will resume its upward course and again reach new high levels. The above analysis therefore indicates that what we are now witnessing is not the beginning of a sharp decline in business activity, such as occurred in the early '30's, but one of the periodic readjustments which are characteristic of a free economy.

Inflationary Forces

There is a strong possibility that when the present readjustment is ended and business activity again turns upward, the forces of inflation will renew themselves. This conclusion is based mainly on the following considerations:

(1) There is a strong inflationary bias among workers, farmers, and many legislators. Wage demands will continue to grow, and a new upswing in business activity will strengthen these demands. The escalator clause contained in many wage contracts is in itself inflationary. The recent announcement of the new proposals of the automobile workers union is an indication of what the trend of labor costs may be in the future.

(2) The farm price support policy will continue to exert inflationary pressures. Despite the recent recommendations of President Eisenhower, it is highly doubtful whether Congress will vote any appreciable reduction in farm support prices.

(3) The Federal Government is already operating this year with a deficit which will probably grow. So long as the aims of the Soviet Union to subvert and control the free world remain unchanged, defense expenditures are bound to grow. Consequently, there is no chance of a material reduction in corporate income taxes. Similarly, state and local taxes, which also add to the cost of doing business, will continue to rise.

In view of these and other factors that could be mentioned, particularly the steady rise in the cost of services, it is reasonable to conclude that the inflationary pressures will continue. It is, of course, possible that the increase in prices of goods and services in the future will not be as rapid as during the past two years. Yet the danger of further depreciation in the purchasing power of the dollar still exists, and hence the problem of how to protect the purchasing power of an estate is still with us. To be sure, inflation can be avoided if as a nation we have the will to do so. However, so long as there is no evidence that this will is widespread, we must work on the assumption that inflation, even though perhaps in a milder form, will continue.

Investment Policy

The above analysis clearly indicates that although prices of equities will continue to fluctuate materially and periods of declining business activity will put a squeeze on profits of corporations, common stocks have a definite place in estate portfolios, large or small. In analyzing methods of protecting the corpus against depreciation through investment in equities, the following points should be borne in mind:

(1) The American economy is dynamic, especially because of research which creates new values and destroys old ones. This means that an industry that today may be considered a growing one may not be in the same position next year or the following year. Technological and scientific changes will have to be watched more carefully than ever before.

(2) Competition is keen and is becoming keener. This in turn means that the merger movement, which is already so pronounced, will become even more pronounced in the future. This will give rise to new giant corporations which may have an important impact on the competitive position of well established concerns with less aggressive managements. Thus, selectivity should be applied not only among industry groups but also among individual corporations within an industry.

(3) It is not advisable to rely too heavily on growth stocks which are today selling at a price based not on present earnings but rather on possibilities in the distant future. These possibilities may not materialize.

(4) Finally, every portfolio should include a reasonable proportion of defensive securities, such as good public utilities and bank shares.

Aside from selection, the problem of protecting an estate by purchase of equities involves primarily the element of timing—obviously the most difficult problem and one for which so far no adequate solution has been found.

The following rules of thumb may be helpful: When the yield on good bonds approaches the yield on common stock, the time is right to cut back the percentage of equities and to increase the percentage of bonds. The same procedure should be followed when industry is operating at full capacity, so that business activity can hardly get any better. Such a period is usually accompanied by tight money, and the Reserve authorities follow a policy of active credit restraint, which if followed long and persistently will bring any boom to an end.

While these rules are only general guides, they should, if implemented by a study of other indices, prove on the whole satisfactory. It is evident, however, that equities will not always be sold at the peak nor bonds acquired at the bottom. Moreover, such a policy, obviously, is possible only where the trust company has considerable flexibility and is not hamstrung by instructions of co-trustees. Where flexibility is not possible, dollar averaging is a satisfactory way out. Experience has shown that dollar averaging, particularly when careful thought is given to individual issues and groups of industries, gives fairly good results in the long run.

The Trend of Interest Rates

The lowering of the discount rate by the Federal Reserve authorities on Nov. 14, 1957, and the other measures taken since that time have brought the period of credit restraint to an end; and the money and capital markets have reacted accordingly. Prices of bonds have risen materially, and the end is not yet in sight. This situation raises the questions: (1) How long will the downtrend in interest rates last? (2) What is the long-term or secular trend of interest rates? If the long-term trend is down, then the best policy to follow at present would be to concentrate on the acquisition of long-term obligations which are non-callable in the near future in order to assure the current yield for as long a period as possible. If, on the other hand, the long-term trend of interest rates is up, then obligations with a shorter maturity should be acquired and diversification of bonds as to maturity becomes more important.

The Short-Run Outlook for Interest Rates

The present downtrend in interest rates has not as yet run its course. The degree of the decline and its duration will depend on the extent of government intervention; the actions of the Federal Reserve authorities; and, above all, on the trend of business. If, because of national security and other reasons, there should be massive intervention by the government and the deficit during the present and the coming year be substantially larger than is envisaged in the President's Budget Message, the decline in interest rates will not go as far as in 1954 and the duration of low money rates may be shorter. Aside from this consideration, which cannot as yet be fully appraised, low money rates should prevail during the greater part of 1958; and there should be a minor rise with an improvement of business conditions toward the end of the year.

The Secular Trend of Interest Rates

While long-range predictions are always hazardous, the following conclusions could reasonably be reached:

(1) Interest rates are not likely to decrease to the level which prevailed from 1934 up to March, 1951, when the Treasury-Federal Reserve Accord was reached. A return to the policy of pegging government bonds, unless there should be a major emergency, cannot now be envisaged.

(2) Since the economy of the country is highly dynamic and inflationary forces will continue to exist, the demand for capital in the future for all purposes is bound to be strong. It is fairly certain that the demand for mortgage money in the early 1960's will be greater than ever before. Capital expenditures by corporations are bound to be great, and the supply of tax-exempt securities will increase as the need for public works grows. However, the savings of the nation, particularly contractual savings, will also be substantial.

(3) The long-term trend of interest rates is upward. It is doubtful, however, whether long-term rates in the discernible future will go higher than those which prevailed during the summer of 1957.

If the above analysis is correct, the diversification of bond maturities would seem to be the best policy to follow. As long-term interest rates decrease and as we approach the end of the present readjustment, the shorter should the maturity of obligations be. Long-term bonds bought during the period of high money rates, unless they are callable, should be kept indefinitely.

Conclusions

(1) The decline in business activity, the increase in unemployment, and the recent leveling out of the price indices do not eliminate the danger of further depreciation of the purchasing power of the dollar in the future. Although indications are that, barring unforeseen developments, the increase in prices in the near future will not be as steep as during the past two years, the need to protect the purchasing power of an estate still persists.

(2) In view of the constant changes in the economy and its dynamic character, a highly flexible investment policy is necessary as regards equities. This involves careful selection not only among groups of industries but also among individual securities; and, above all, it involves careful timing.

(3) Whenever bond yields approach or surpass the yield on stocks and whenever the Reserve authorities pursue a policy of active credit restraint for any length of time, a reduction in the percentage of equities and an increase in the percentage of bonds is indicated.

(4) While the immediate trend of interest rates is down, the extent of the decline and its duration cannot be appraised with any degree of accuracy. They will depend on the degree of intervention of the Federal Reserve authorities, the magnitude of the Federal deficit, the methods adopted to finance the deficit, and the trend of business activity.

(5) The end of the readjustment will be followed by an increased demand for credit and capital which will bring the decline in interest rates to an end. After the readjustment is over and the recovery is well under way, bond prices are therefore again likely to decline.

(6) The secular trend of interest rates is upward; but unless the inflationary forces in the future are much more pronounced than can be envisaged at present, interest rates—short-term as well as long-term—in the foreseeable future will not surpass the peak reached during the summer of 1957. This would indicate the desirability of following a policy of diversification as regards bond maturities and, as the readjustment reaches its end, of shortening maturities.

(7) A dynamic and rapidly changing economy obviously complicates the work of the trust company or the trust department of a bank, but it also has its compensations. It clearly demonstrates to laymen how difficult a task the proper administration of an estate is and how important it is to entrust this task to competent trust experts. Growing awareness of this fact is bound to lead to a constant increase in the number of estates administered by trust companies.

DIVIDEND NOTICES

NATIONAL SHARES CORPORATION

14 Wall Street, New York
A dividend of twelve cents (12c) per share has been declared this day on the capital stock of the Corporation payable April 15, 1958 to stockholders of record at the close of business March 31, 1958.
JOSEPH S. STOUT,
Vice President and Secretary
March 10, 1958.

DOMESTIC MINES LIMITED

March 7, 1958
DIVIDEND NO. 162
At a meeting of the Board of Directors of Domestic Mines Limited, held this day, a quarterly dividend of Seventeen and One-half Cents (17½c) per share (in Canadian Funds) was declared payable on April 30, 1958, to shareholders of record at the close of business on March 31, 1958.
CLIFFORD W. MICHEL,
President and Treasurer.

GENERAL REALTY & UTILITIES CORPORATION

4% Cumulative Income Debentures Due September 30, 1959
NOTICE OF PAYMENT OF COUPON NO. 27
Payment of the amount called for by Coupon No. 27 representing interest for the six months period ending March 31, 1958 on the above mentioned Debentures of General Realty & Utilities Corporation, will be paid on March 31, 1958 at Bankers Trust Company, Successor Trustee, 16 Wall Street, New York 15, N. Y.
GENERAL REALTY & UTILITIES CORPORATION
SAMUEL M. FOX, Treasurer.
March 12, 1958

THE GARLOCK PACKING COMPANY

March 5, 1958
COMMON DIVIDEND No. 327
At a meeting of the Board of Directors, held this day, a quarterly dividend of 25¢ per share was declared on the common stock of the Company, payable March 31, 1958, to stockholders of record at the close of business March 14, 1958.
H. B. PIERCE, Secretary

WAGNER BAKING CORPORATION

The Board of Directors has declared a dividend of \$1.25 per share on the 7% Preferred Stock payable April 1, 1958, to stockholders of record March 21, 1958.
J. V. STEVENS, Secretary

Tri-Continental Corporation

A Diversified Closed-End Investment Company

First Quarter Dividends

30 cents a share on the COMMON STOCK

67½ cents a share on the \$2.70 PREFERRED STOCK

Payable April 1, 1958
Record Date March 18, 1958

Kenneth H. Cha'mers
Secretary

65 Broadway, New York 6, N. Y.

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Washington . . . And You

Behind-the-Scene Interpretations from the Nation's Capital

WASHINGTON, D. C.—Companies on the lookout for investment opportunities abroad will do well to keep an eye on the International Finance Corporation.

An affiliate, but not a subsidiary, of the World Bank, IFC is an investing institution dealing directly with private business. It was set up in July, 1956, to promote economic development in areas needing capital for major productive ventures.

Since that time, this multinational agency has painstakingly examined dozens of investment proposals. IFC entered into only five transactions in its first one and one-half years. Now it has undertaken a sixth venture, and others that meet its financing requirements will follow.

Before the agency are proposals for perhaps 60 more investment projects. At least half are in Latin America. Opportunities much farther afield, including some in India, are being considered.

By its own definition, IFC is not intended to compete with private capital. At the same time, it will not put money into enterprises that are government owned or operated. Its investments are to be the sort that will attract private investors—as the latest one has done.

Garner's Views

Robert L. Garner, IFC President, stresses the importance of bringing nongovernment capital into the program. He says:

"I conclude that for a solid and enduring resistance to communism to be built up in the developing countries, we must look most hopefully to creating conditions where more and more people have a decent economic stake in the present and opportunities for the future.

"I am convinced that these conditions can most likely be created through development of private business—the sort of dynamic force to which we have given play in this country. This aspect of freedom, its meaning and its results, can be made tangible and evident to other peoples."

To achieve the goal of helping have-not nations to help themselves, IFC uses its subscribed funds, in limited amounts, for investments. It may act, also, as a clearing house, bringing together (1) the opportunities for sound placement of funds, (2) foreign and domestic private capital, and (3) experienced management.

\$93 Million of Capital

Capital amounting to \$93 million has been subscribed by more than 50 member nations in IFC. This total is \$7 million short of the authorized capital, but it is sufficient to cover the agency's entry into the field of foreign financing. Interested chiefly in investments of medium size in enterprises that are neither vast nor tiny, IFC is putting an average of less than \$2 million into each project.

Thus far, the agency is taking part in investment activities in countries with substantial natural resources. Two of the first six projects are in Brazil and two are in Mexico. The others are in Chile and Australia. While these countries are decidedly not in the have-not class, their business-

men are happy to get U. S. dollar financing.

Primary targets of the IFC operation are firms engaged in manufacturing, processing, and mining. These, IFC believes, provide the best economic potential through employment, training, and the bolstering of related activities.

The organization followed this principle in selecting its initial projects. One of the Mexican companies, for example, is Bristol de Mexico, which overhauls and tests aircraft engines. Its plant can overhaul about 480 engines per year. In Brazil, IFC invested in Siemens do Brasil, a German-owned producer of heavy electrical equipment. The Australian company, Duncan's Holdings Ltd., is in the lumber business and is introducing timber impregnation into the country.

Negotiates Interest Rate

Rather than using uniform interest rates for all projects, IFC negotiates the rate for each project individually. Rights to participate in profits also are considered separately. Loan maturities range from five to fifteen years.

This flexible financing policy is illustrated by the Bristol de Mexico and Siemens cases:

In Bristol, which has both Canadian and Mexican stockholders, IFC invested the equivalent of \$520,000, half in U. S. dollars and half in pesos. Both portions have a 7 per cent interest rate, plus contingent interest payments related to the amount of earnings. Amortization in thirteen semi-annual amounts begins in the third year. IFC receives an option on shares equal to half its total investment.

The investment in Siemens, \$2 million, is in notes bearing interest at 6%. It will mature in 15 years, with amortization beginning at the end of the 11th year, to retire the issue in equal annual amounts. IFC gets an option on shares equivalent to complete conversion of its notes.

IFC does not plan to keep its investments simply because they are profitable. Its intention is to sell as soon as a project is successful enough to attract private capital, with the principals getting first refusal rights to buy the IFC interest.

Housing Legislation

Housing matters are much on the minds of the lawmakers and public officials in Washington at this time. Steering of more funds into the home-building market can be a sturdy prop for the drooping economy, these men hold.

Occupying the spotlight is the emergency bill on housing newly sent to the Senate floor. Proponents of this compromise measure, prescribing a program of \$1.8 billion, say it will trigger the building of 200,000 to 400,000 units within a year. In addition, the bill was to provide the means for breaking through the 4½ per cent ceiling on veterans loans.

This limit on the interest rate has been a source of considerable concern to the Veterans Administration. Even before the upsurge in housing action by the Senate, VA moved to promote more home lending. It did so by allowing an increase of one percentage point in maximum discounts that may

BUSINESS BUZZ



"Just WHO is responsible for that paragraph about what happened out in the stock room at the office Christmas Party?"

be paid where GI loans are concerned.

Ample evidence that lenders are staying clear of 4½ per cent loans was accumulated in 1957. Starts in VA-guaranteed housing units dropped by more than 50 per cent from the 1956 total. But in FHA-insured housing, with an interest rate of 5 to 5½ per cent, the drop in single and multi-unit housing was 10 per cent.

Imposition of discount controls last year left only conventional financing with interest rates of around 6 per cent, open to many veterans. To complete their home buying, large numbers of veterans have resorted to such expedients as second mortgage financing and land sale contracts.

Others have been forced out of the home-buying market, except where some of the subdivision residences are contracted for. In these instances, the builder may have arranged for GI loan financing before discount controls became effective.

VA Experience

In the months of June and July, 1957, VA was getting requests to appraise more than 20,000 dwellings per month. But requests declined to 5,307 in December and 7,304 in January.

The recent boost in maximum permissible discounts is applicable to the entire country. Actual discounts will vary with

the location of the property and the amount of down payment.

As the VA sees it, allowable discounts in New York and southern New England would be about 3½ per cent for loans with a down payment of 10 per cent or more. In western states, the discount that could be expected on low-equity loans would be approximately 6½ per cent.

"Invest-in-America Week"

Investment companies, banks, and savings and loan firms in the Capital are to play a large part in Invest in America Week, to be observed from April 27 through May 3. This national program is to be marked by additional emphasis on the vital role of savings and investments in economic life.

President Barnum L. Colton of the National Bank of Washington is chairman of the group supervising participation in the Washington area. Richard L. Johnson, of Merrill Lynch, Pierce, Fenner & Smith, is serving as vice chairman.

The planned observance of this special week is to add to public awareness of the essentiality of savings and investments. On that note, Mr. Colton says:

"Invest in America Week helps our people understand more clearly the function of the investment of capital in increasing our productivity, which in

turn helps create more jobs so that our economy can continue to expand."

His committee has asked businessmen to put money into the program and to offer display space for special publicity matter.

Public information media, advertising firms, and civic organizations are joining with the investment and banking houses to present the program to the public. Local chambers of commerce, industrial companies, schools, churches, and service clubs have been asked to cooperate.

[This column is intended to reflect the "behind the scene" interpretation from the nation's Capital and may or may not coincide with the "Chronicle's" own views.]

COMING EVENTS

In Investment Field

- March 7, 1958 (New York City)**
New York Security Dealers Association 32nd annual dinner at the Waldorf-Astoria.
- March 19, 1958 (St. Paul, Minn.)**
Twin City Investment Women's Club meeting at Town & Country Club.
- March 19-20, 1958 (Chicago, Ill.)**
Central States Group of Investment Bankers Association of America annual spring conference at the Drake.
- April 11, 1958 (Toronto, Canada)**
Toronto Bond Traders Association annual dinner at the King Edward Hotel.
- April 23-25, 1958 (Houston, Tex.)**
Texas Group Investment Bankers Association annual meeting at the Shamrock Hill-on Hotel.
- April 25, 1958 (New York, N. Y.)**
Security Traders Association of New York Annual Spring Dinner at the Waldorf-Astoria.
- May 1 & 2, 1958 (St. Louis, Mo.)**
St. Louis Municipal Dealers Group annual Spring Party.
- May 16, 1958 (Baltimore, Md.)**
Baltimore Security Traders Association annual spring outing at Country Club of Maryland.
- June 9-12, 1958 (Canada)**
Investment Dealers' Association of Canada annual convention at Manoir Richelieu, Murray Bay, Quebec.
- June 19, 1958 (Minneapolis-St. Paul)**
Twin City Bond Club annual picnic and outing at the White Bear Yacht Club, White Bear Lake, Minn.
- June 27, 1958 (New York City)**
Investment Association of New York outing at Sleepy Hollow Country Club, Scarborough on the Hudson, Scarborough, N. Y.
- Sept. 29-Oct. 3, 1958 (Colorado Springs, Colo.)**
National Security Traders Association Annual Convention at the Broadmoor

TRADING MARKETS

American Cement
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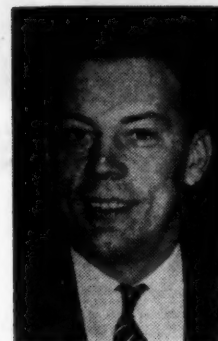
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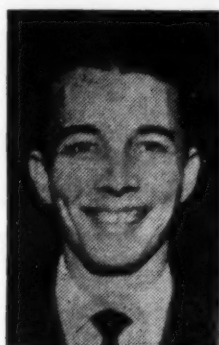
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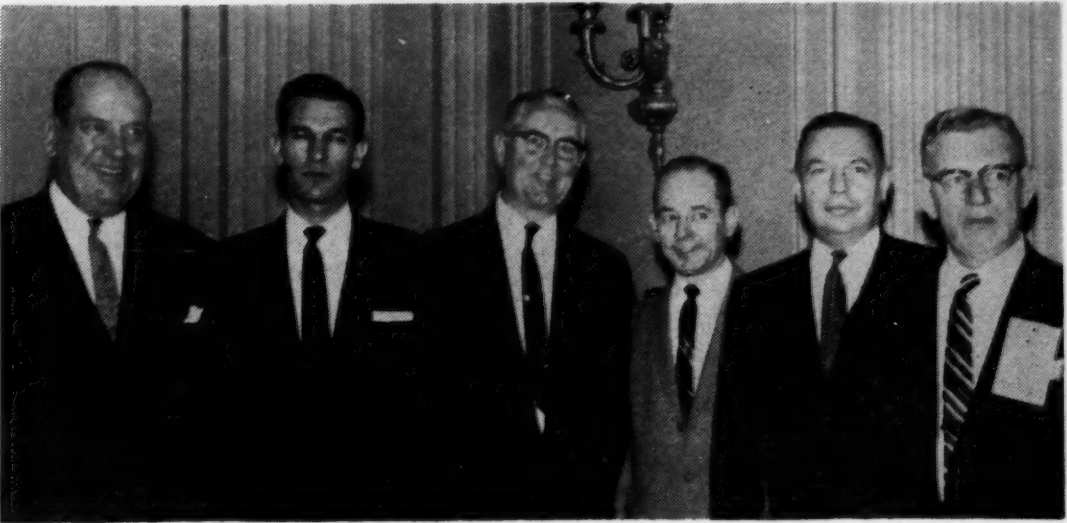
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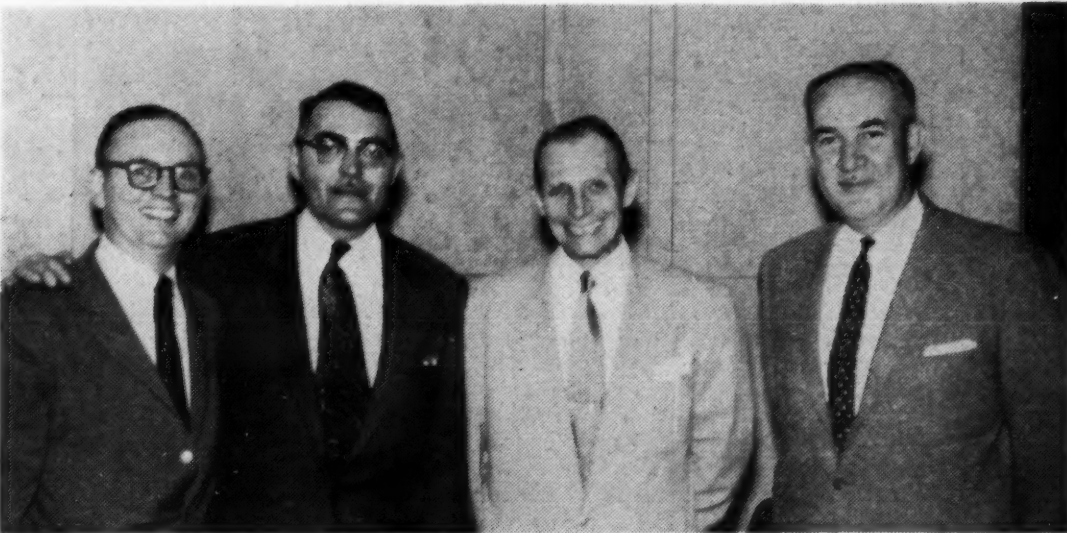
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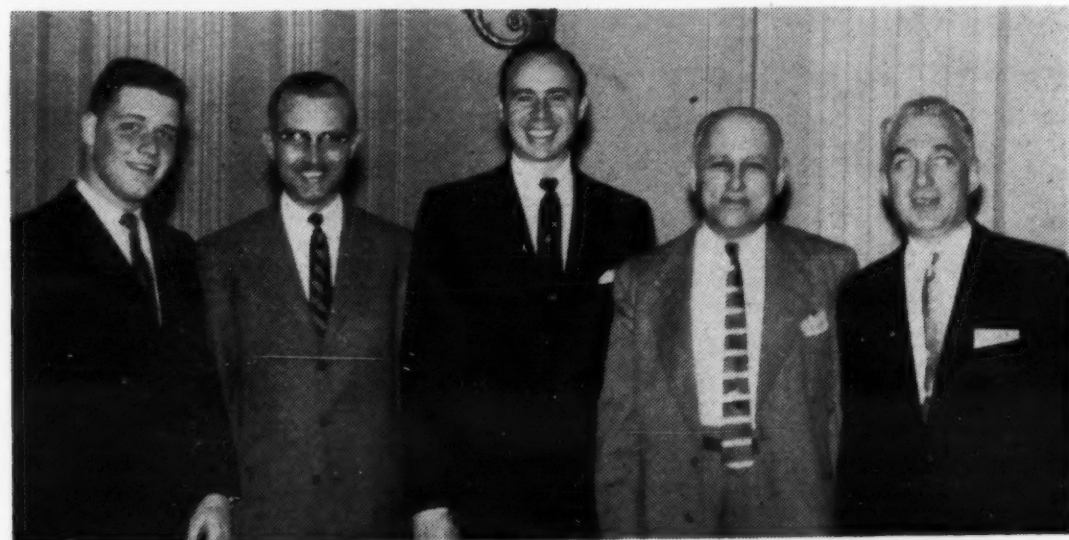
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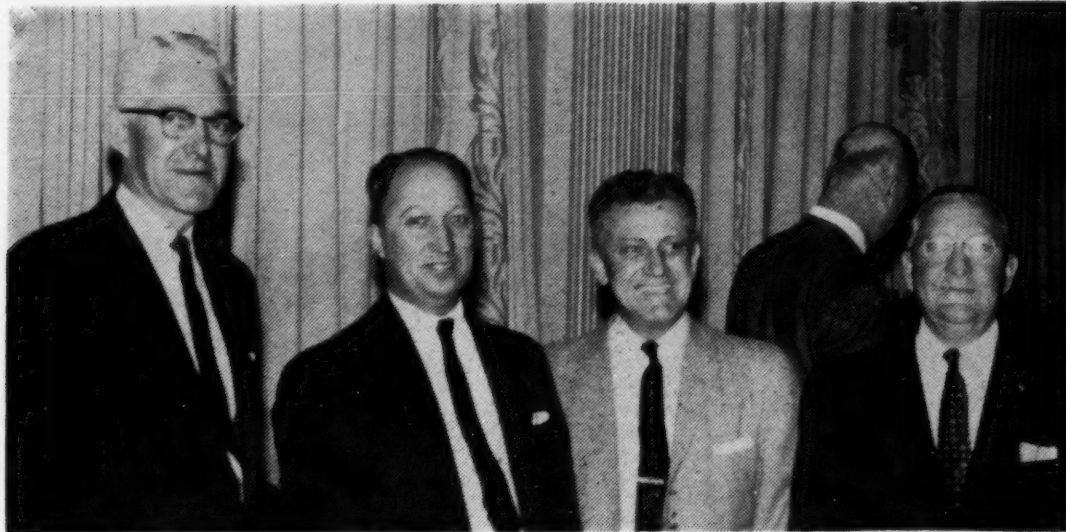
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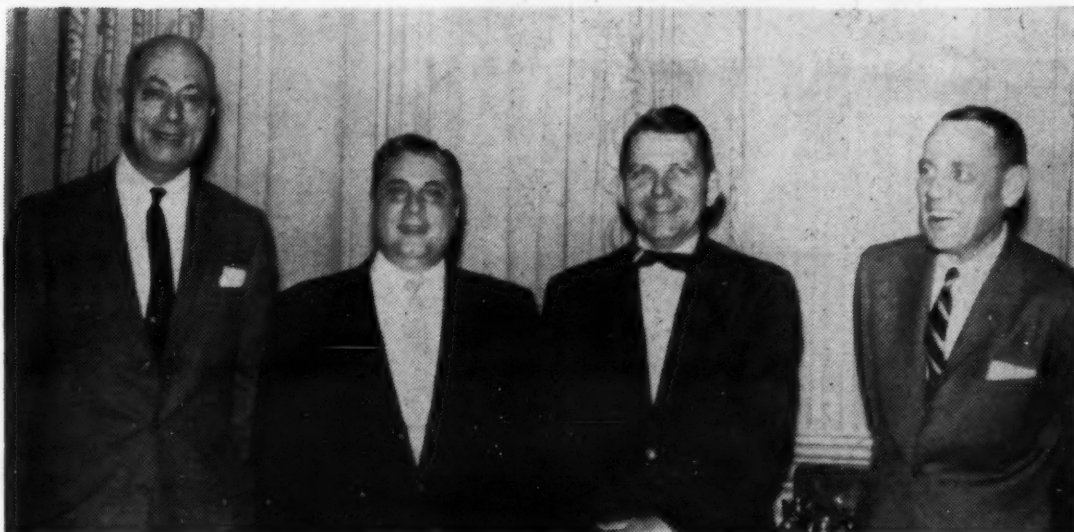
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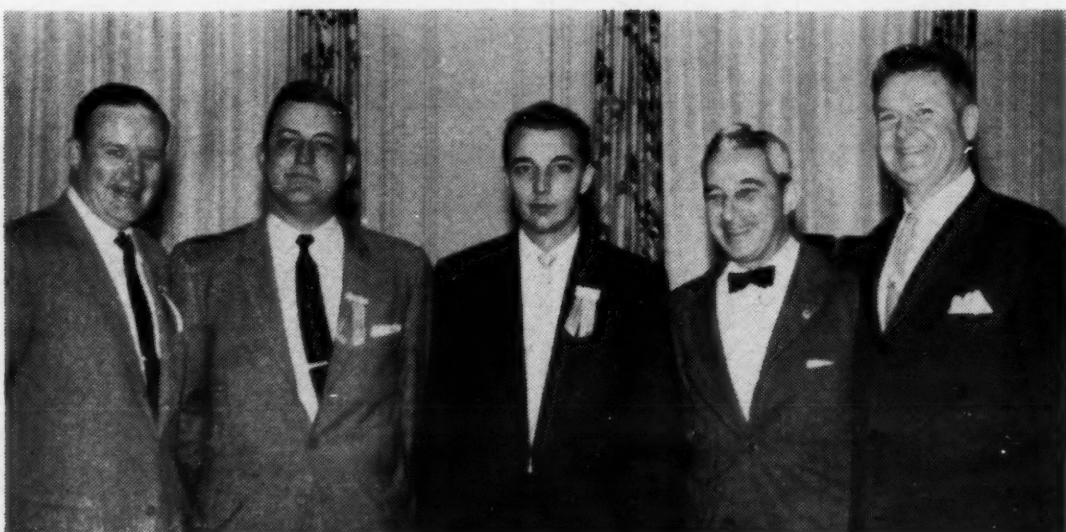
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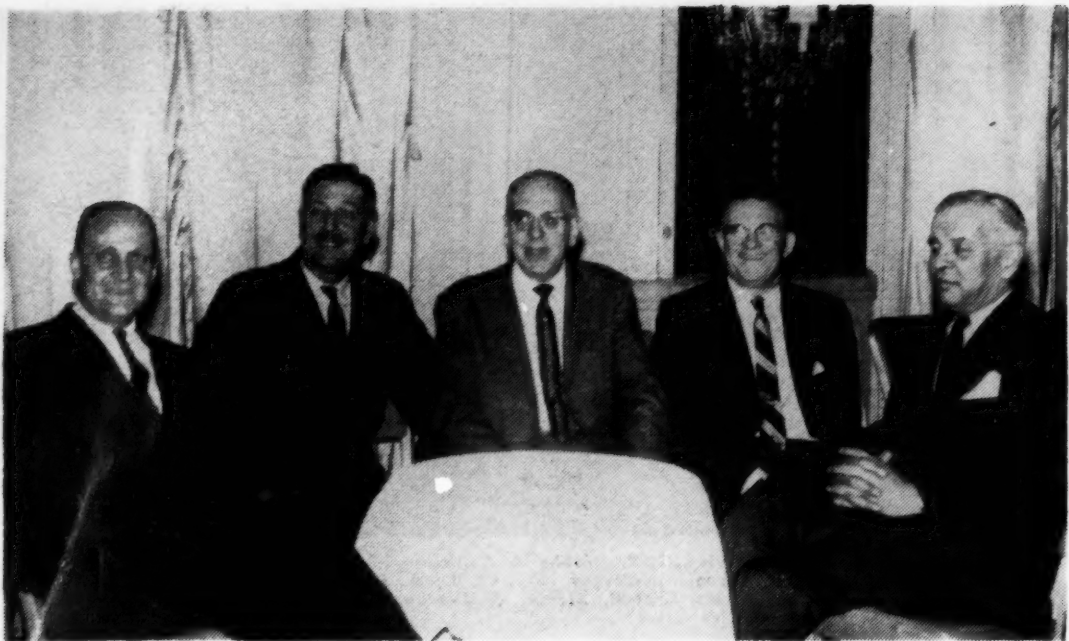
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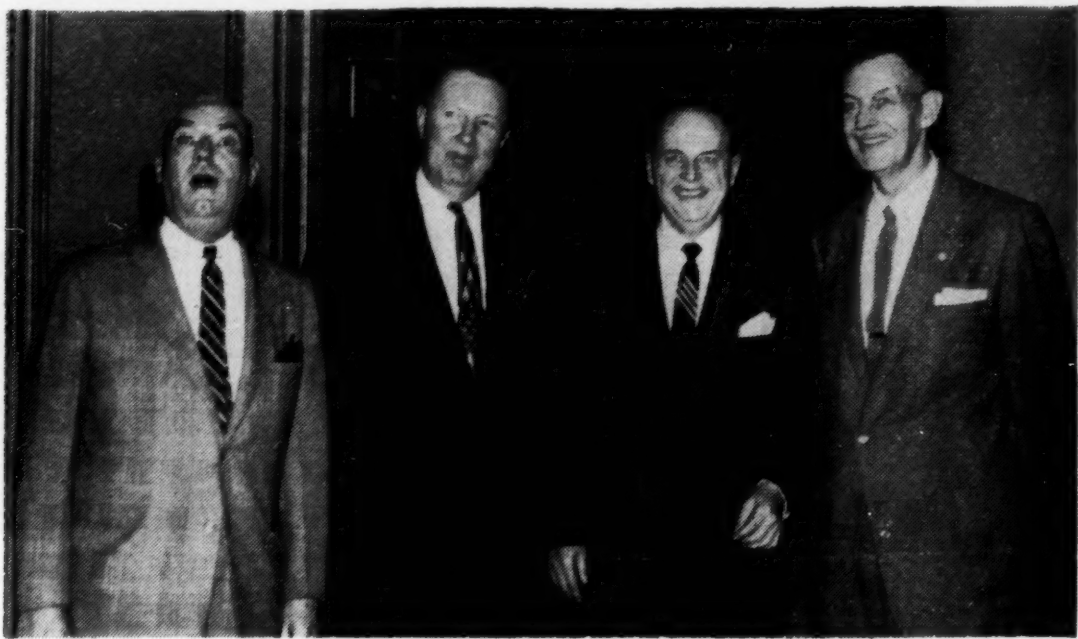
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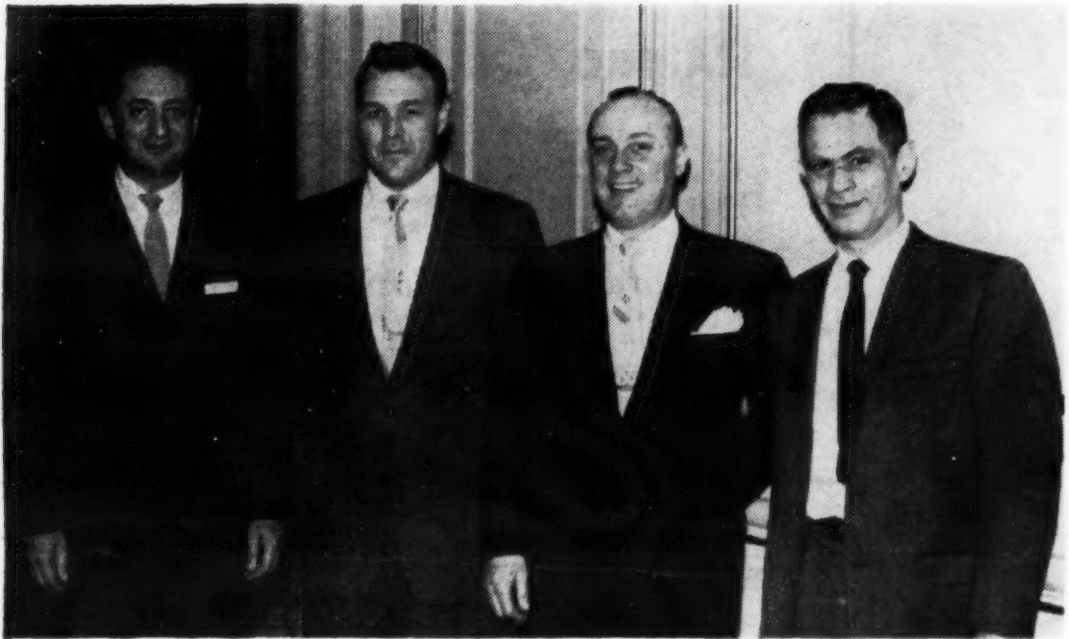
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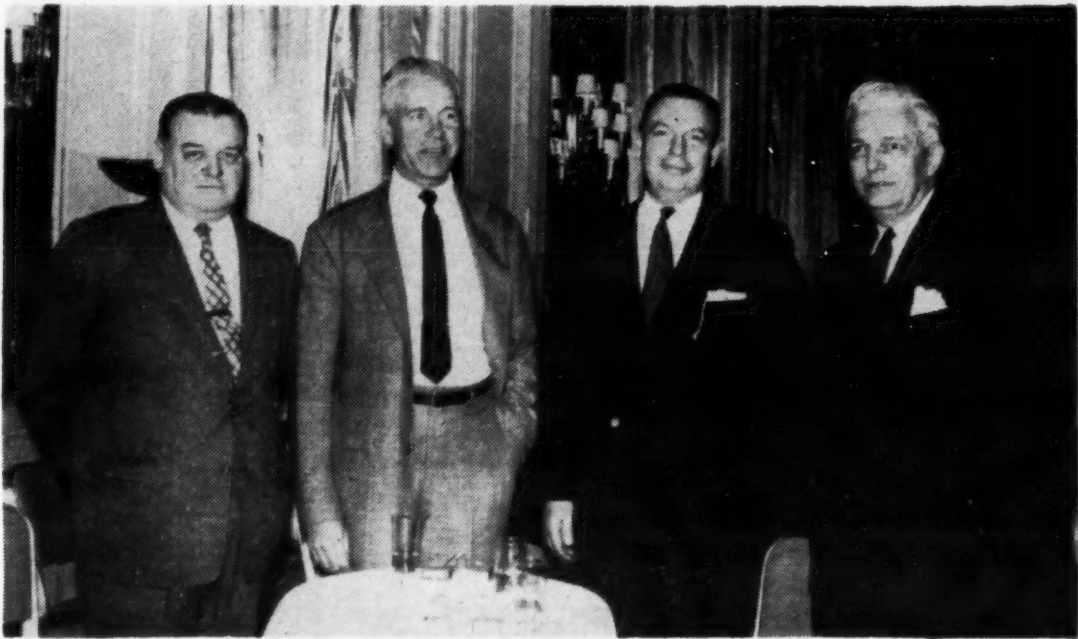
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